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Volume LX | JUNE, 1959 | Number 7

TABLE OF CONTENTS

Original Articles

Envenomation in Kansas—The Poisonous Varieties of Animals in the State—John W. Schmaus, M.D., Wichita 237

pHisoHex in Newborn Babies—For the Prevention and Control of Staphylococcic Skin Infection in Hospital Nurseries—Arnold H. Baum, M.D., and R. Dale Boles, M.D., Dodge City 248

Staphylococcal Pneumonia—Nitrofuran Treatment of a Case in an Infant—J. L. Perkins, M.D., and C. R. Openshaw, M.D., Hutchinson 250

Abdominal Pregnancy—Garland L. Campbell, M.D., Arkansas City 252

Tumor Conference—Reticulum Cell Sarcoma of the Stomach 260

Civil War Medicine—A Personal Account from the Diary of Charles F. Little, M.D.—Lawrence L. Evans, M.D., Kansas City . 265

Editorials

The Hall of Health 257

Dallas Whaley 257

The Kansas Doctor 257

Miscellaneous

Just Browsing 255

President's Page 256

The Kansas Press Looks at Medicine . . . 258

Maternal Mortality Report 259

The Month in Washington 262

Death Notices 263

Economics in Medicine 264

Physicians Activities 273

Announcements 274

News Notes 275

Committees for 1959-1960 276

Blue Shield 279

The Kansas Medical Society—1959-1960 . . 282

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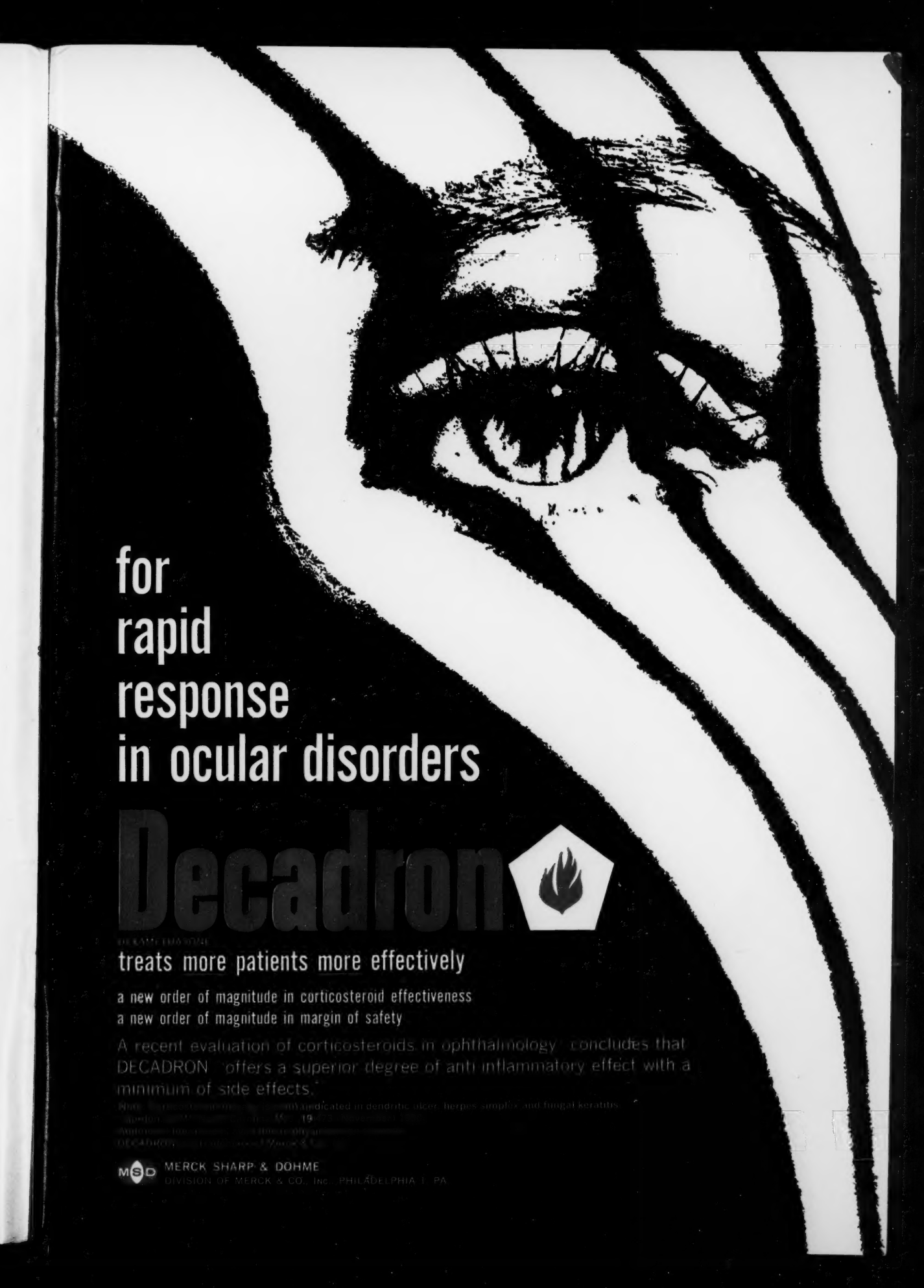
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1. Moyer, J. H.; Dennis, E., and Ford, R.: Arch. Int. Med. *96*:530, 1955.
2. Terman, L. A.: Illinois M. J. *3*:67, 1957.
3. La Barbera, J. F.: M. Rec. & Ann. *50*:242, 1956.
4. Bendig, A.: New York J. Med. *66*:2523, 1956.

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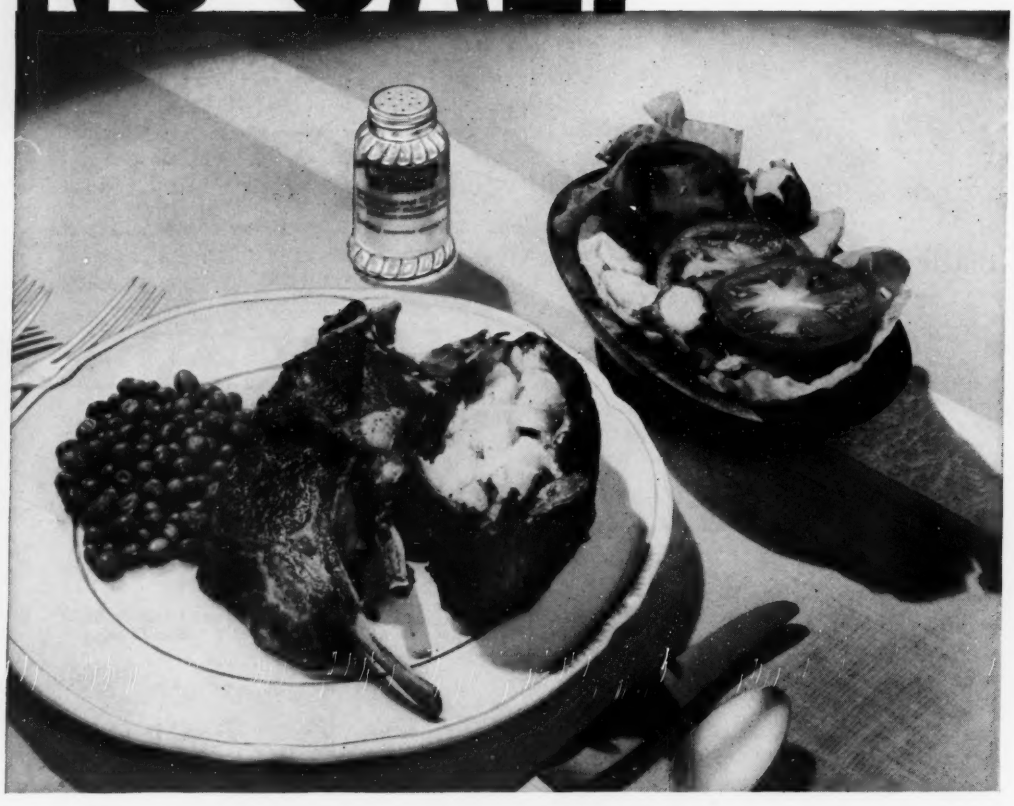

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References: 1. Finkelstein, M., et al.: J. Pharmacol. & Exper. Therap. 125:330 (April) 1959. 2. McHardy, G., et al.: Postgrad. Med., in press. 3. Winkelstein, A.: Amer. J. Gastroenterol., in press. 4. Finkelstein, M., et al.: Presented at Fall Meeting, Amer. Soc. Pharmacol. & Exper. Therap., 1958. 5. Leming, B.: Clin. Med. 6:423 (March) 1959.

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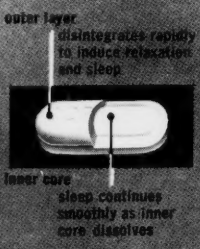

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1 Schlesinger, E. B.: Tr. New York Acad. Sc. 2:6, (Nov.) 1948.
2 Richards, R. K., and Taylor, J. D.: Anesthesiology 17:414, 1956.
3 Shideman, F. E.: Postgrad. Med. 24:207, 1958.
4 Berger, F.: Pharmacol. Rev. 1:243, 1949.

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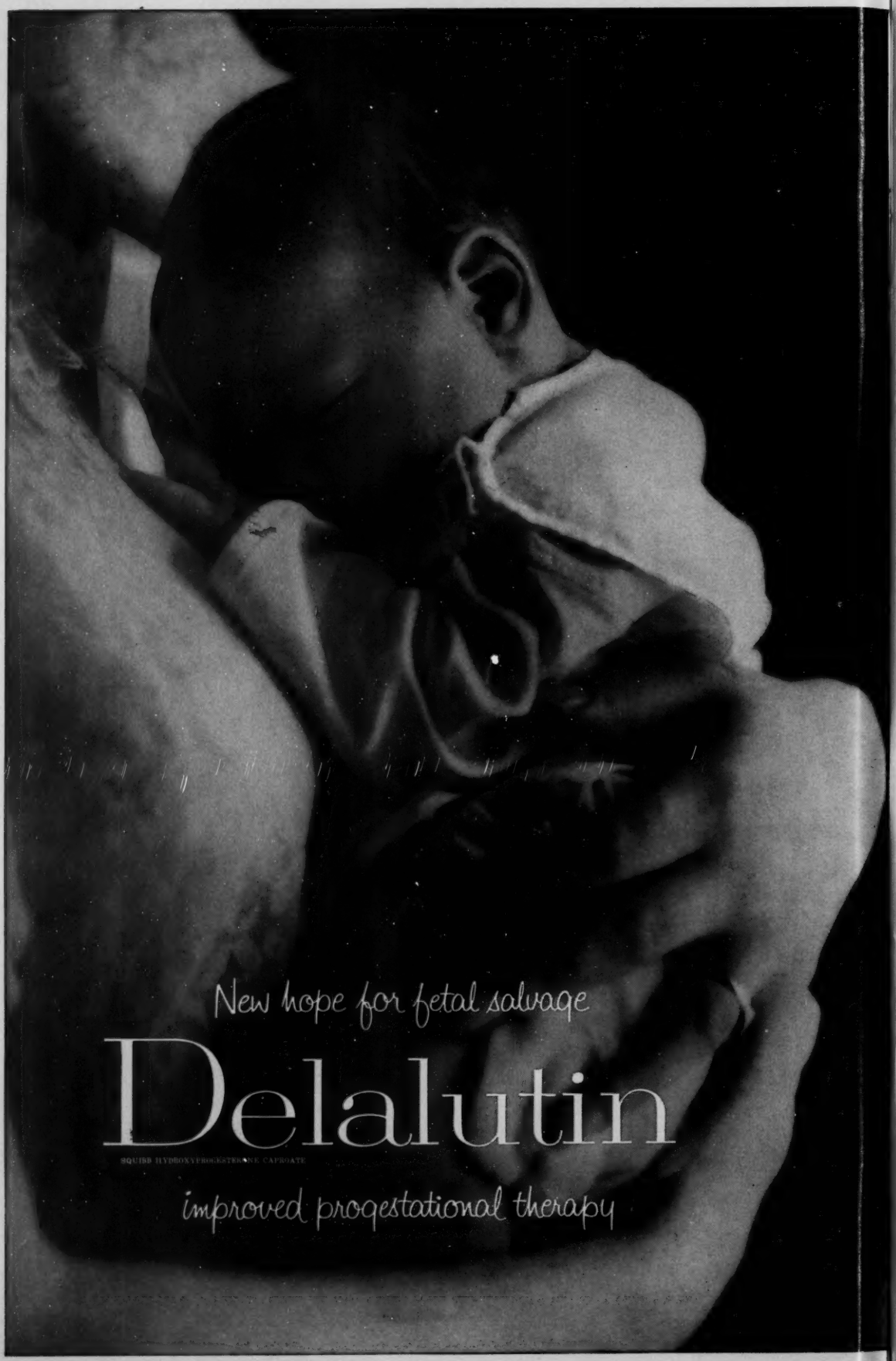
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The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein.[1] Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,[2] in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy
64% of 42 pregnancies were salvaged by progesterone
83% of 73 pregnancies were salvaged by Delalutin

Eichner,[3] found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.
108 (76%) of 142 babies of this birth weight survived without progestational therapy.
16 (100%) of 16 babies of this birth weight survived with Delalutin therapy.
A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.[4] Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active," well-tolerated and long-acting.

Delalutin offers these advantages over other progestational agents:

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- more effective in producing and maintaining a completely matured secretory endometrium
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DELALUTIN is also potent and safe therapy for: threatened abortion; post-partum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

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References: 1. Reifenstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

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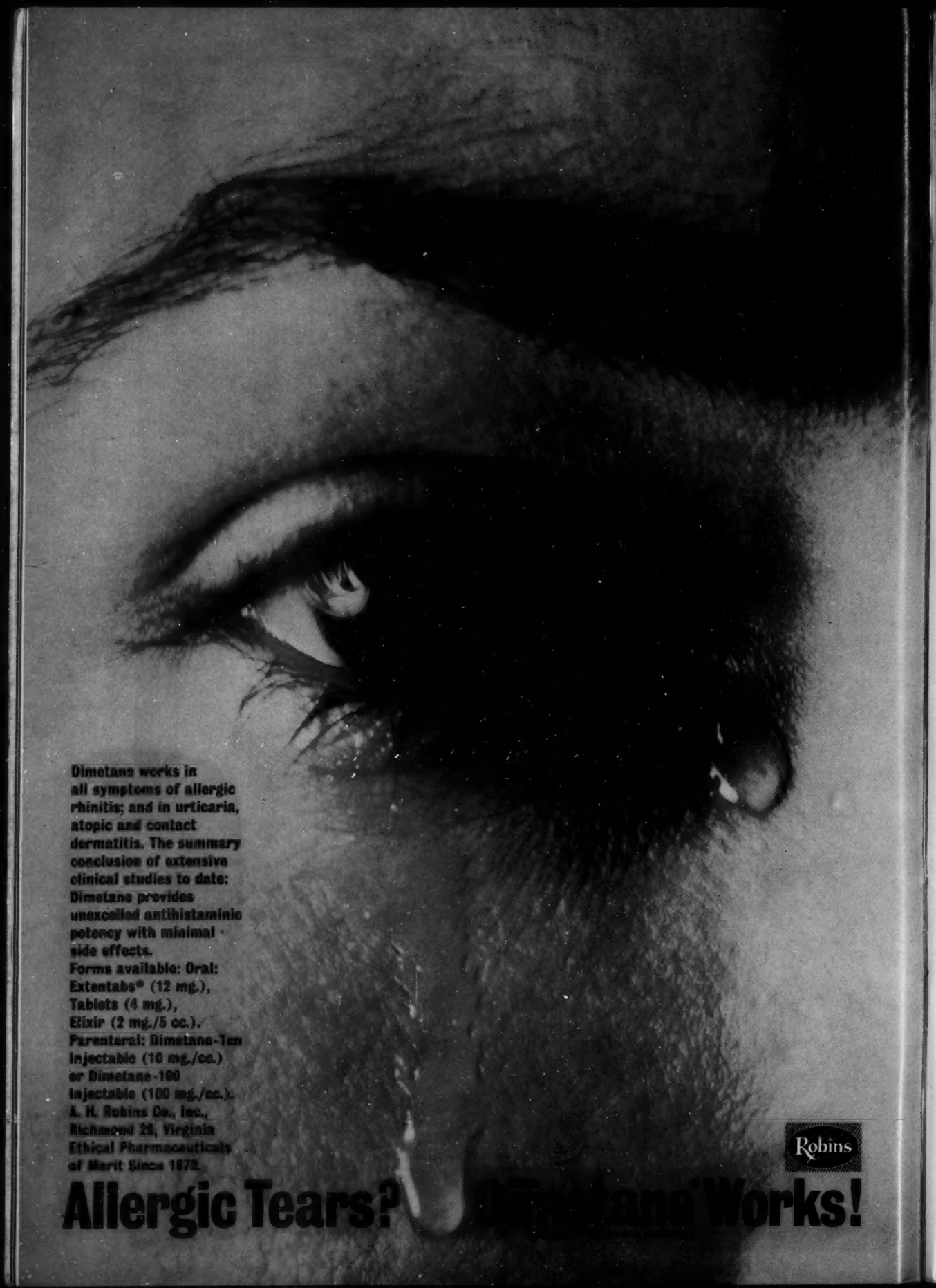
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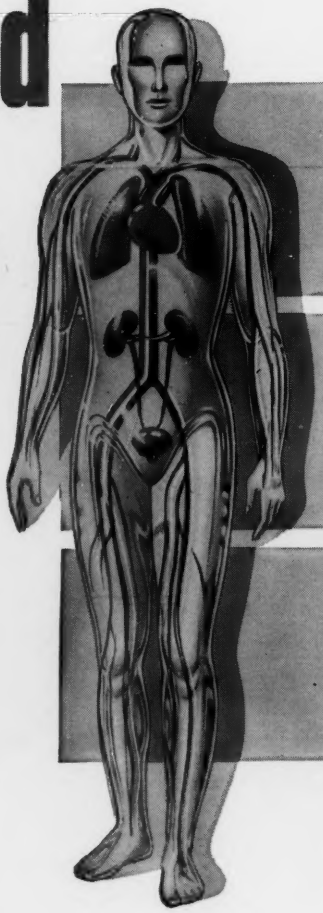

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*1. Borrus, J. C.: J.A.M.A. 157:15[illegible]ril 30, 1[illegible] 2. Sell[illegible] S.: J.A.M.A. 157:1594, April 30, 1955. 3. Lemere, F.: [illegible]thwest Med[illegible]098, Oct. [illegible]5. 4. Bene[illegible] B. and M[illegible]ocutti, C.: Lav. neuropsichiat. 18:693, 1[illegible] 5. Selli[illegible]5.: J. Clin[illegible] Exper. Psy[illegible]th. 17:7, [illegible]arch 1956. 6. Berglund, M., Blumenthal, B.[illegible]lordh, P.[illegible]nska läk. 58:3362, Dec. [illegible] 1956. 7.[illegible]el, H. A., Wood, J. A. and Dixon, H. H.: [illegible]w York Aca[illegible]c. 67:780, May 9, 1957. [illegible]Hollister,[illegible]E., Elkins, H., Hiler, E. G. and St. Pierr[illegible]Ann. New Yo[illegible]k Acad. Sc. 67:789, May 9, [illegible]57. 9. C[illegible]f.: Rass. med. 34:233, July-Aug[illegible]1957. 10[illegible]i, R. et al[illegible]J. Pediat. Praxis 20:27, A[illegible]g. 1957. [illegible]iklund, P[illegible]: Anaesthesist[illegible]07, Aug[illegible]7. 12. Tucker, W. I.: Sou[illegible]M. J. 50:1111, Sept. 195[illegible]5. Rolandi[illegible] Attual. ostet.[illegible]. 3(6,[illegible], Nov.-Dec. 1957. 14.[illegible]hecker, W.: Klin. Mona[illegible]l. Augenh[illegible]2):224, 1958. [illegible]hebianco[illegible]G. and Ceroni, T.: Oto-[illegible]cing. ital. 26(2):143, 1958. 16.[illegible]o, G.: Minerv[illegible]49:1914, 1958. 17.[illegible]ttuso, R. and[illegible]tti, F.: A[illegible]eurol. 23(1):36, J[illegible]1958. 18.[illegible] Gazz. med. ital. [illegible]:49, Feb. 1[illegible]Dastur, R.[illegible]: J. Indian M. Prof[illegible]13, Feb. 1958.[illegible]st, W.: Therap. G[illegible]t 97:66, Fe[illegible]21. Be[illegible]P.: Lyon méd. 19[illegible] March 2, 1958.[illegible]miglia, G.: Miner[illegible]. 10:218, M[illegible]15, 1958.[illegible]ilander, H. S.:[illegible] Cardiol. 1:395,[illegible]1958. 24. McCler[illegible]: Arch. Ped[illegible]75:101, M[illegible]25. Sprauer, V. J.[illegible] Internat. Rec. Med.[illegible] GP Clinics 171:[illegible]1958. 26.[illegible]inson, R.[illegible]Robinson, H. M.,[illegible].: South. M. J. 51[illegible]9, April 1958. 27.[illegible], S. and Pe[illegible]er, L.: Ne[illegible]ed. 58:1285, April[illegible]15, 1958. 28. Bouquerel, J., Naviau and[illegible]né: Ann. méd.[illegible]ychol. 116[illegible]ne 1958. 29. Reboul, E., Reboul, M. and Dorgeuille, C.: Maroc[illegible]37:784, July 1958. 30. B[illegible]. Lyon méd. 200:885, Nov. 1958. 31. Lamphier, T. A.: Maryland M[illegible]. 7:627, Nov. 1958. 32. Leuke[illegible] Med. Klin. 53:2113, Dec. 1958.

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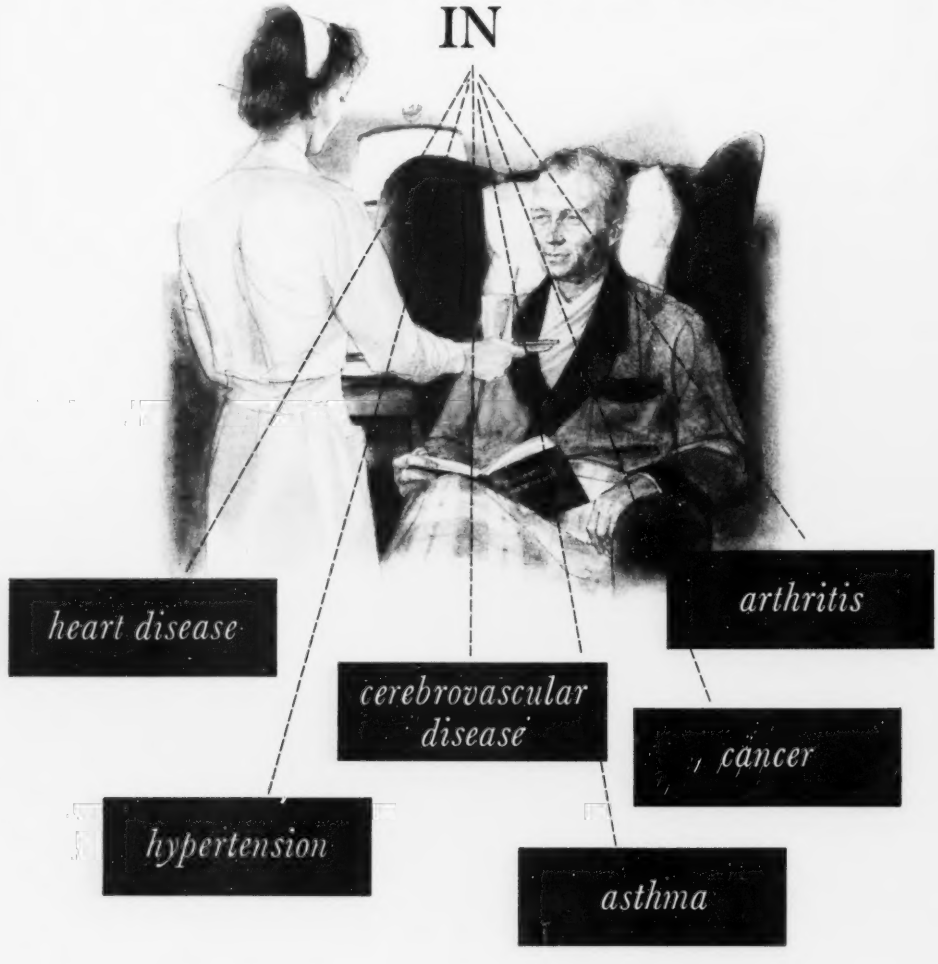

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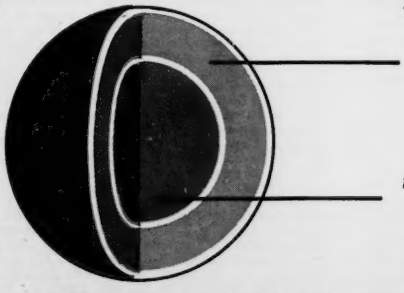

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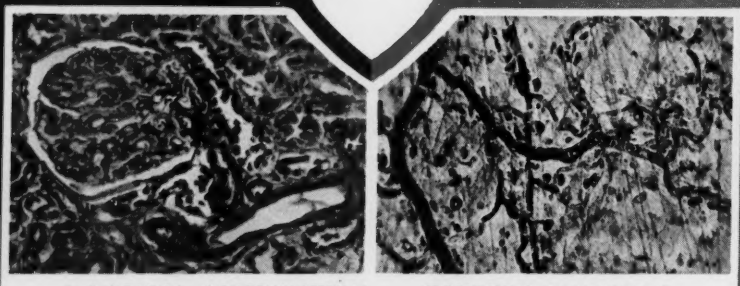

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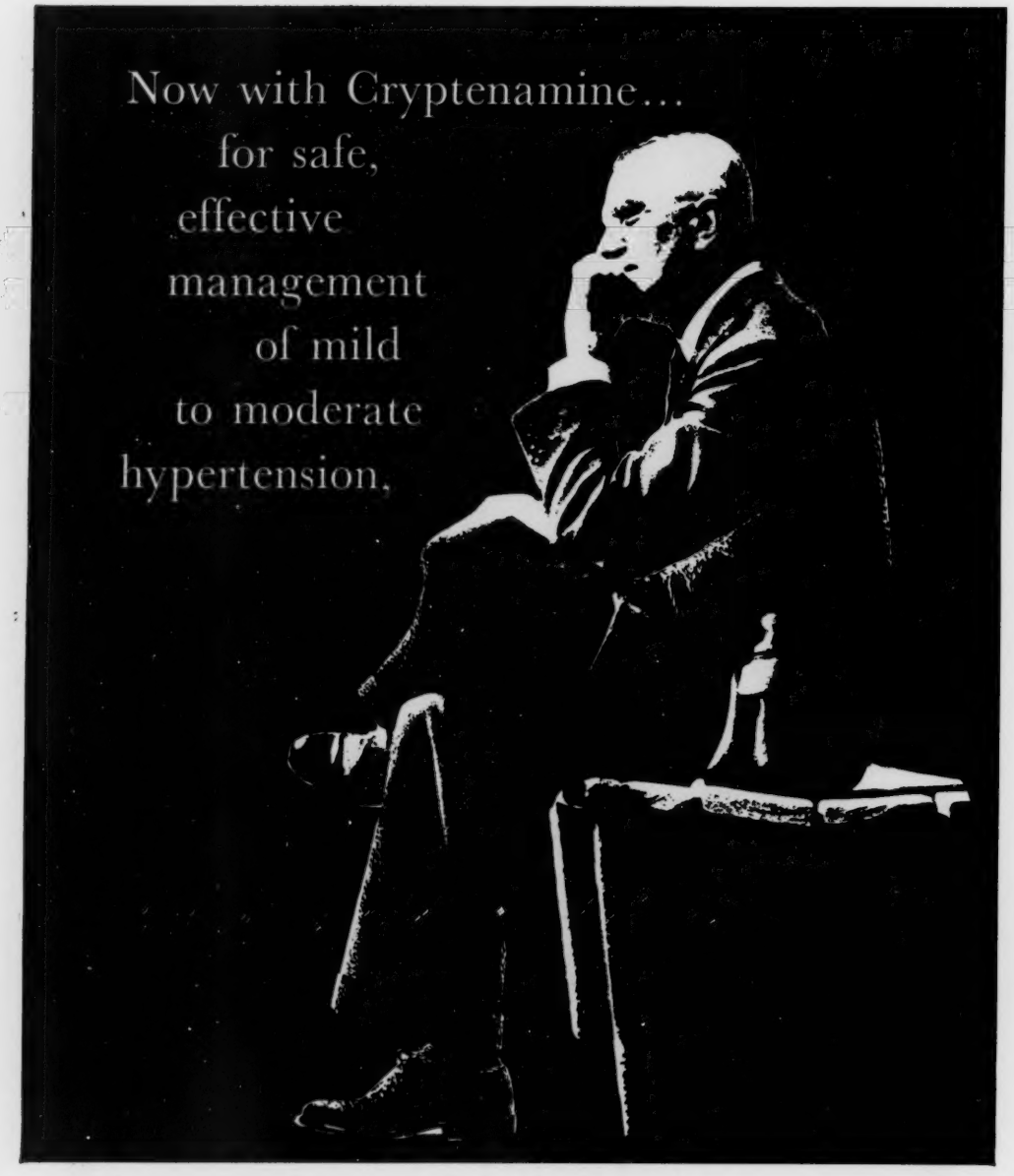

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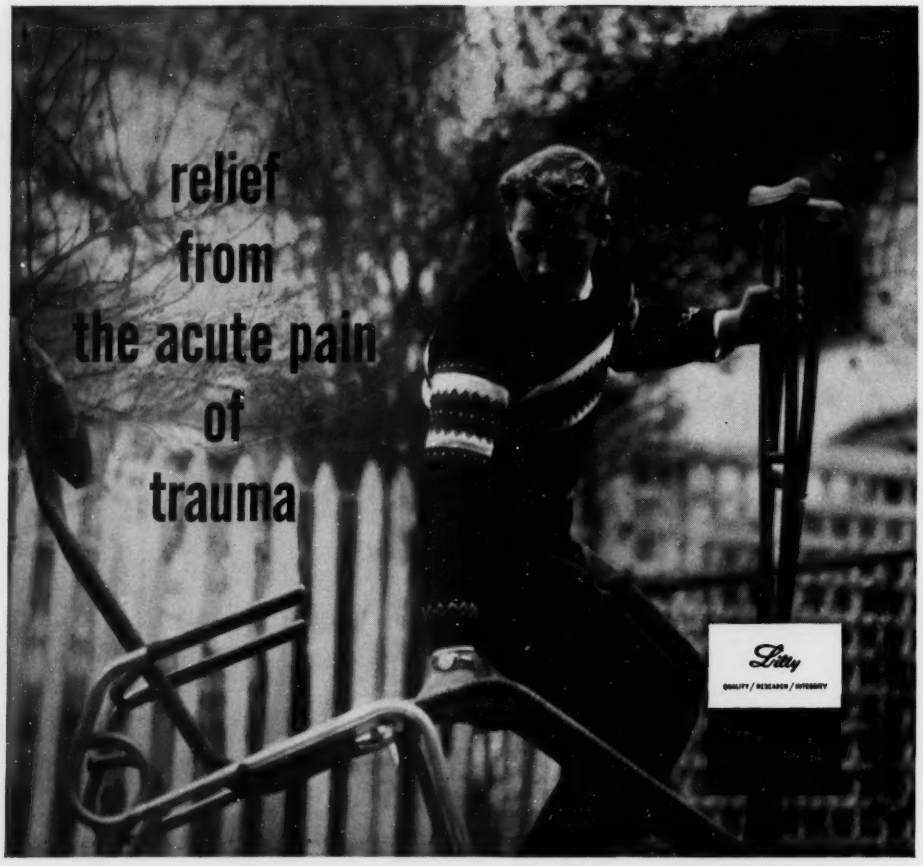

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Envenomation in Kansas

The Poisonous Varieties of Animals in the State

JOHN W. SCHMAUS, M.D., ***Wichita***

The problem of poisoning from animal bites is not so serious in Kansas as in the southwestern states, particularly Arizona,[1] but Kansas is surely not without hazards in this respect. In addition to six poisonous snakes, we have the black widow spider and many less serious offenders, all capable of bringing the patient to the physician with a "bite." The purpose of this paper is to list the poisonous animals which occur within the borders of the state and to discuss the therapy of their bites or stings. A secondary purpose is to note those venomous animals which are not native to Kansas, although mistakenly thought to exist here. The animals concerned will be only those with a true venom capable of causing significant distress to the victim. Animals serving only as disease vectors or mild parasites are not considered.

Although each year more people die in the United States after being struck by lightning than from snakebite, a nonfatal and frequently nonvenomous bite is still good front page copy for most newspapers. Morbid interest and at times hysterical fear concerning snakes are certainly the bases for this notoriety. Snakebite is something from which people expect to die and any physician who has been presented with this problem is aware of the extreme anxiety shown by the victim or his relatives. This anxiety is present even after bites from nonvenomous species and often leads to unnecessary and perhaps dangerous antisnakebite therapy.

Each year 30,000 to 40,000 people die from snakebite.[2, 3] Of these deaths 15,000 are in India. Statistics for the U.S.A. have changed markedly during the past 30 years. Previous papers reported 2,000 to 3,000 poisonous snakebites yearly with a mortality of 10 to 35 per cent.[4, 5, 6, 7, 8] The 1950 statistics, however, showed only 51 deaths from "venomous animals and insects." At least half of these were probably from snakebite.[2] The total number bitten remains unchanged with a resultant mortality of under 3 per cent. A recent report by Parrish revealed only 71 deaths from 1950 through 1954, so the mortality continues to fall.[9,2] Venomous animal bites are not reportable in Kansas so records of these deaths due to animal envenomation are not kept and the statistics for this state are unknown.[9]

The significantly venomous animals of Kansas are listed and therapy for their bite or sting is discussed. The importance of the proper therapy and the dangers of unnecessary therapy are emphasized.

Kansas Snakes

All types of poisonous snakes are represented in the U.S.A. with the exception of the true vipers. Those groups found in this country are the elapids (coral snakes), sea snakes (one species described off the southern California coast), crotalids or pit-vipers (rattlers, copperhead, and water moccasin), and the rear-fanged snakes.[10] Only the last two groups are native to Kansas. There are no coral snakes in or near Kansas. No Kansas snake has red, yellow, and black rings encircling the body so there should be no chance of confusion with a coral snake, as can happen elsewhere in this country.

From the Medical Service, Veterans Administration Hospital, Kansas City, Missouri, and the Department of Medicine, University of Kansas Medical Center, Kansas City, Kansas.

The rear-fanged snakes are of passing interest only. These snakes have some larger grooved teeth in the back of the upper jaw. The venom from the poison glands in the upper jaw is delivered through these grooves to the victim. The only rear-fanged snake dangerous to man is the boomslang of Africa. A few species in the southwestern U.S.A. can cause some local pain and swelling[1] but the species in Kansas have mouths too small to bite a human.[11] These three species are the slender tantilla (Tantilla gracilis), black-headed tantilla (T. nigriceps), and the spotted night snake (Hypsiglena torquata).[11]

The pit-vipers are represented in Kansas by six species. These are the copperhead or highland moccasin (Ancistrodon contortrix) found only in the eastern one-third of the state; the massasauga or swamp rattler (Sistrurus catenatus) found statewide except for the northwest quarter; the western diamondback rattler (Crotalus atrox) described only from extreme southern Kansas; the timber rattler (C. horridus) in the northeastern one-sixth of the state and along the extreme eastern border to Oklahoma; the prairie rattler (C. viridis) found statewide except for the northeast quarter; and, finally, the water moccasin or cottonmouth (Ancistrodon piscivorus) which has been recorded only from the Neosho River at Chetopa in extreme southeastern Kansas. The many reports of seeing or being bitten by cottonmouths are usually describing the common water snake (Natrix sipedon). This is a similarly marked, heavy bodied, non-venomous water snake which frequently bites and which is found statewide. Further description of these species is not within the scope of this paper. A recent, excellent monograph covers all the reptiles of Kansas and should be available to each physician.[11]

Snakebite Indentification

The question of therapy for snakebite depends primarily on one point: Was the snake poisonous? Too often the victim does not or cannot bring the snake with him for identification. Occasionally no snake was actually seen. Although the teeth marks of poisonous and non-poisonous snakes are distinctly different,[12] this distinction depends on a good bite, which may not be the case. In addition, serious poisoning can occur with a one fang bite.[13] The question of poisoning is not difficult to resolve, however, because of the nature of the pit-viper venom. If the snake is brought in, certain characteristics will identify it as a venomous species.[90] Any rattle will be obvious. All poisonous snakes in Kansas have an elliptical pupil as opposed to the round pupil of harmless species. The pit-vipers have a deep pit between the eye and nostril. If the head should have been crushed, distinction can be made by the type of plates on the ventral surface of the tail. The tail begins at the anal opening. In pit-vipers, most of the plates from the anus to the tip of the tail will be in one row whereas these plates, in harmless snakes, will form two rows. Le Conte's snake (Rhinocheilus lecontei) is the only exception to the last statement. It is a harmless, docile snake with the plates in a single row. However, it is unlikely it would be confused with a poisonous species.

Pit-viper venom is a neutral or slightly acid, clear yellow liquid with a specific gravity of 1.030 to 1.050.[6] It is a complex mixture of proteolytic enzymes, neurotoxin, bacteria, cell detritus, various proteins, and electrolytes.[8, 14] The neurotoxin serves to kill the prey and the proteolytic enzymes begin digestion even before the victim is swallowed. The neurotoxin of Kansas snakes is of minor importance except in cases of massive poisoning. Venoms have been the subject of over 6,000 papers, which leads to a confusing terminology for its many components. The composition of snake venom varies from species to species and even within a species depending upon the snake's nutrition, age, recent hibernation, etc. The essential difference between the Kansas pit-viper venoms is in the amount and potency of proteolytic enzymes. These enzymes have many functions: locally they digest tissue and destroy endothelial linings of blood vessels, leading to extravasation of blood, pain, and edema; hyaluronidase in the venom allows the spread and subsequent lymphatic absorption of these enzymes to give widespread endothelial damage, particularly to mucosal and renal vessels; the proteolytic enzymes can also deplete the blood of fibrinogen either by changing prothrombin to thrombin or by the direct change of fibrinogen to fibrin intravascularly.[7, 19] This last function has been used in medicine as a local hemostatic but when given systemically, it leaves the blood free of fibrinogen and thus unable to clot. Lecithinase in the venom combines with lecithin in the victim's tissues to form lysolecithin which is a cardiotoxin and a potent hemolytic agent. Lecithinase and other enzymes can cause the release of histamine in the body but the significance of this is debatable. The combination of all of the above functions leads to marked local reaction with severe pain, edema, bleeding and ecchymoses. These findings progress locally until systemic absorption occurs with the addition then of nausea, vomiting, giddiness, mucosal bleeding from the nose, gastrointestinal, and urinary tract; generalized ecchymoses, often a subnormal temperature but occasionally fever, shock, exhaustion, coma, and death.[14] The severe local pain will usually be present immediately and always within the first fifteen minutes. Edema and, usually, oozing of blood from the fang marks plus local ecchymoses will be present within 30 minutes. If these findings are not present within these time limits, no venom was injected. This signifies the snake was not of a venomous species or, if it was, no venom entered

the victim. The latter occurrence is not too uncommon because of the many factors involved with a successful bite.[20] A third possibility is the extremely rare occurrence of direct intravenous injection of venom which usually removes the patient from the province of the physician.[1, 8, 15-18]

Snakebite Therapy

If it is decided the patient was bitten by a nonvenomous snake, the treatment is the same as for any puncture wound. It should be carefully cleaned, an antiseptic applied, and tetanus prophylaxis used.

Therapy for pit-viper bite is a much debated point at the present time. A few years ago there would have been no doubt that treatment consisted of tourniquet, incision, suction, and antivenin. This basic treatment was used for years with success and, without antivenin, was used for several hundred years previously with fair success. This may only mean that most people recovered from snakebite in spite of the treatment. Apparently this still happens because victims continue to recover in spite of the recently widely publicized L-C (ligature and cryotherapy) treatment as advocated by Stahnke and others. The L-C treatment consists of an occlusive tourniquet just proximal to the bite and immediate chilling of the bitten extremity. The tourniquet is removed shortly after the extremity is chilled and is not reapplied. The rationale is that bringing the tissue temperature rapidly down to 4 to 7° C inhibits the enzymatic and bacterial action and thus prevents local damage while the venom is slowly detoxified systemically. Chilling is obtained by placing the bitten extremity in a mixture of water and ice. It may be kept in this mixture for several days depending on the severity of the bite. Because few people have ready access to ice while camping, Stahnke has recommended the emergency use of ethyl chloride spray to frost the bitten area until ice can be obtained. Others have used Frigiderm®[22] or freon gas for the same purpose. The proponents have many arguments for this method as opposed to the "cut and suction" school, and on superficial examination these arguments seem to have merit. Now that more results are available, however, the L-C method has not provided less morbidity but frequently has caused more. In many cases the ice water has been the apparent direct cause of extensive sloughs. No well controlled series have been seen inasmuch as most of these patients have also received incision, suction, and antivenin in addition to refrigeration. Others have tried to compromise by using only moderately cold temperatures, by means of ice bags, to implement the usual methods of incision, suction, and antivenin. Their results have been equivocal.[13, 21-28, 52]

The main objectives of snakebite therapy are to prevent death and to minimize local damage. Most bites do not result in serious local damage unless the tissue has been further injured by injudicious local care such as injecting potassium permanganate, freezing with ethyl chloride or ice, or any of the numerous other means of treatment that have arisen over the years. Swartzwelder's 306 cases from Charity Hospital in New Orleans showed local complications only from some of the strange first aid methods employed. In nine cases amputations were necessary because a tourniquet was on too long or too tight. Of these 306 cases, only two died. Woods's 200 cases from Virginia had only four local sloughs and three deaths. Again, the only serious slough was from poor local therapy.[26, 29, 30]

The "cut and suction" method was re-evaluated objectively over thirty years ago by Dudley Jackson in a series of dog experiments. These demonstrated the bases for the logical treatment of snakebite. He showed significant amounts of venom could be recovered at the site of injection 24 hours after the bite and much of this could be removed by incision and suction. He also demonstrated that venom migrated through the tissue spaces until it was diluted enough to be absorbed by the superficial lymphatics. It was then carried by the superficial lymphatics until they communicated with the deep lymphatics, at which time the poisoning became systemic. This communication with the deep lymphatics does not occur until the superficial lymphatics reach the axilla or the popliteal, thigh, and inguinal areas of the leg. These experiments suggested that by blocking only the lymphatic, not the venous, flow, and by incision and suction, the poison-rich edema fluid could be removed locally thus minimizing systemic effects and controlling local damage.[31-33]

These techniques have proven themselves through the years and have only been modified recently. The treatment I will suggest is a summary of this basic therapy plus the use of some newer agents. Excluding the very rare intravenous injection of snake venom, probably no one should die today with proper treatment.

In Kansas, identification of the snake as a copperhead is quite helpful. This snake probably accounts for most of the bites in eastern Kansas and since it is the least venomous of the pit-vipers, the majority of cases would probably recover without any treatment.[34] Other factors to be considered are size and health of the person bitten. Children, because of their smaller body mass relative to the amount of venom, should always be treated more vigorously. Even a copperhead bite might have a fatal result in a child. In the United States, the water moccasin, prairie rattlesnake, western and eastern diamondback rattlesnakes account for 95 per cent of the deaths and of that group the western diamondback (C. atrox) causes as many as the rest combined.[35] Identification of the snake as a prairie rattler, western diamondback

rattler, or water moccasin should call for even more intensive therapy. Wood, Hoback, and Green classified snake bites into three groups of minimal, moderate, or severe poisoning depending on the severity of the presenting signs and symptoms and on the course taken during the first 12 hours.[36] This was an excellent way to evaluate types of treatment as they were doing, but 12 hours is too long to be of practical value in deciding the immediate treatment. The treatment of snake bite is much like that of diabetic coma in that certain things must be done immediately and other things done later depending upon the clinical course.

Treatment Procedure

Steps in treatment are outlined as follows:

1) Hospitalize the patient. Serious and sudden relapses can occur even after several hours of apparent recovery.[1, 14]

2) Remove the usual tourniquet and reapply so as to obstruct only the lymphatic flow. This is usually tight enough to distend the veins distally but loose enough to allow your fingers to slide under the tourniquet. The tourniquet will be more effective over one bone instead of two so, in the case of a hand bite, it can be applied just above the elbow. Because of the popliteal communications with the deep lymphatics, it should initially be applied below the knee with a foot bite. This tourniquet, if properly applied, will not interfere with circulation but to be certain of this, it should be loosened for 30 to 60 seconds every 20 minutes. It may be moved proximally as the edema advances and may be removed entirely after the edema stops advancing and after the incision, suction, and antivenin steps are completed. If there is an increase in systemic signs after removing the tourniquet, it should be reapplied.

3) Immediate local incision. These incisions should usually not be made directly into the fang marks because this increases local damage, causes poor healing, and, usually, the venom has already spread from the injection site. If, by chance, the victim is seen within a few minutes of the bite, before there is much edema, incision of the fang marks would be justified. Three to five linear incisions ¼ inch long and ¼ inch deep should be made at the proximal edge of the edema. It is not necessary to make cruciate incisions since these heal poorly and edema will cause linear incisions to gape satisfactorily. The purpose of the incision is to reach the subcutaneous space so the venom-rich edema fluid may be removed. Two or three incisions may be adequate with a minimal bite and a minimal copperhead bite in a healthy adult may require none at all. A serious bite will require many incisions. If the edema is progressing up the extremity, successive incisions should be made every four to six inches on up the limb. These are made just proximal to the edema front, in a staggered row, with the incisions one inch apart. If the edema encircles the limb, the row of incisions should also encircle the limb. In a severe case the patient may have encircling rows of incisions every four to six inches from the ankle to the groin.[33] Dudley Jackson felt it was better to make 50 to 100 incisions than to undertreat a single case. Fortunately the cases requiring extensive incisions will be quite uncommon. Some writers have mentioned that excision may occasionally be necessary with a severe bite. Animal experiments have not shown greater survival with immediate excision, and the question of who should have immediate amputation of an extremity would seem to be impossible of answer because of the many variables involved.[37]

4) Suction for 20 minutes every hour. This may be done with the usual suction cups, breast pumps, or even a Pavex boot.[38] Mouth suction should be avoided. Poisoning has occurred through a carious tooth. Wounds will close rapidly if kept dry. Cool, moist soaks of hypertonic saline or magnesium sulfate will keep them open and maintain drainage.

5) Keep the bitten extremity in a slightly dependent position and at complete rest. Elevation in these cases can only increase the spread of venom toward the trunk. Any movement, excitement, or substance such as alcohol only serves to increase the interchange of tissue fluids and thereby increase the lymphatic absorption of the venom. For this same reason, heat is not recommended. Ice packs will relieve pain and, when carefully used, are helpful. Immobility of the bitten area, which has occasionally been a neglected point, is assuming more importance in snakebite therapy. One series showed that immobilization alone was more beneficial than tourniquet, incision, or suction. In view of these findings, the use of a splint may be justified.[39]

6) Type and crossmatch for at least 1,000 cc whole blood. This is an emergency measure because it is frequently impossible to do after the venom reaches the systemic circulation and hemolysis occurs. A urinalysis and hemoglobin should be obtained early for comparison with values later. Albuminuria and hemolytic anemia can occur with systemic spread.

7) Antivenin in adequate amounts. The previous Antivenin (Nearctic Crotalidae), Wyeth, was replaced in 1954 by a much improved product, Antivenin (Crotalidae) Polyvalent (North and South American Antisnakebite Serum), Wyeth. The former antivenin was a liquid, was stable only one year, came in dose of 15 cc and was associated with frequent reactions to the contained horse serum. Its use was also limited only to North American pit-viper bites. The new product comes in a 10 cc dose, is lyophilized and stable for five years, and is more purified with a much lower incidence of serum reactions. It is made by hyperimmunizing horses against the venom of the

western and eastern diamondback rattlers (C. atrox and C. adamanteus), the tropical rattler (C. durissus terrificus) and the fer-de-lance (Bothrops atrox). Antivenin with sufficient potency against these four venoms is also potent against all other North and South American pit-vipers. As far as Kansas snakes are concerned, one ampule of the antivenin will neutralize between 10 and 20 mg of the dried venom. The average mature snake can be milked of 10 drops of venom each drop containing 22 mg of dried venom. The minimum lethal dose of rattlesnake venom in man is 20 to 30 mg. Even though the snake probably never delivers his entire supply of venom, it frequently delivers 25 to 75 per cent of it. By simple calculations, it can be seen that one ampule of antivenin is frequently not enough although this is the usual dose given. This is particularly true of the western diamondback which can deliver 200 mg or more in a bite. The average copperhead can deliver 45 to 60 mg, the water moccasin 90 to 150 mg, and the timber rattler 42 to 90 mg per average bite. The toxicity per milligram of dried venom varies, with the diamondback, timber rattler, and water moccasin being about the same. The copperhead is much less, which accounts for the difference between copperhead and timber rattler bites although the amount of venom delivered is about equal. The average ejection per bite by the prairie rattler and massasauga is unknown although their venom is probably the most toxic per milligram. The massasauga has such short fangs that successful bites are not frequent but deaths do occur.[6, 8, 18, 40-45]

If there is reason to believe that the envenomation was minimal, the antivenin might well be deleted. This is often a difficult decision so the safer course lies in giving antivenin after checking for horse serum sensitivity. If the patient proves to be sensitive to horse serum, and the bite was more than minimal, the antivenin can still be given using the usual desensitization routine and preferably after giving 100 mg of hydrocortisone intravenously. Adrenalin should be immediately available if needed. The hypersensitive patient should then receive 25 mg of cortisone four times daily for the next three or four days and then in decreasing doses for a total of eight to ten days. This routine has prevented severe serum reactions in known hypersensitive people.

One ampule, 10 cc, is given intramuscularly. Never inject it into the area of the fang marks or in any area such as a digit, foot, or hand which is already edematous. The additional fluid only further embarrasses circulation.

Injection of one ampule subcutaneously in the proximal edge of the edema has been advocated and would probably neutralize some of the venom locally. The patient must be evaluated frequently and additional ampules given intramuscularly every 30 to 60 minutes as long as the edema is advancing. In severe cases with systemic symptoms it can be given intravenously. For children in shock, it can be given intraperitoneally if veins are not available. Most writers have not had to use more than three ampules with any one case but some have described using ten or more ampules in a severe poisoning. Children should receive at least two ampules initially.

8) Give antibiotics, tetanus, and gas bacillus antitoxin. Many venoms are contaminated with tetanus and gas bacillus so penicillin is indicated for one week after bite. Gas bacillus antitoxin and either tetanus antitoxin or a toxoid booster should be given. If the patient has not been immunized against tetanus, the series can be started now if the toxoid and antitoxin are given in separate arms.

9) Give adequate fluids and electrolytes. Because of the toxicity and edema, these patients can develop an intravascular fluid deficit which parenteral dextrose or normal saline will correct. This usually develops after the first 12 hours from the bite and is manifested by hypotension and drowsiness which could be confused with the systemic effects of the venom.

10) Usual supportive methods. This includes such things as blood and vasoconstrictors for shock, keeping patient warm, oxygen as needed, and the use of corticosteroids and ACTH. At first cortisone and ACTH were reported as specific for snakebite. This has since proved to be incorrect. Because of their supportive action, however, they have been lifesaving on many occasions. They also help control hemolysis and may lessen the amount of edema. An important action is minimizing reactions to the foreign snake or horse protein. Their use is rational so most moderate and all severe cases should receive them in adequate dosage. Vigorous use of these "usual supportive measures" has been the main reason for survival of some snakebite victims with serious bites.[46, 47]

11) Control pain. The pain is frequently very severe and opiates may be necessary. The use of opiates in the presence of a potential neurotoxin requires caution. Although it has been stated that Demerol® is contraindicated in snakebite, it is noted that these experiments were done with scorpion venom in rats and cannot be applied to the problem of snake venom in humans.[24, 48]

12) The proteolytic enzymes in pit-viper venom can occasionally deplete the blood of fibrinogen leading to a hemorrhagic state difficult to control. This is much like the syndrome of post-partum afibrinogenemia after abruptio placentae, and the treatment should be the same. The use of either whole fresh blood or intravenous fibrinogen in doses of 4 to 10 gm should be tried.

13) The phosphatidases in the venom cause the release of histamine. The significance of this is unknown. It was used to explain the shock associated

with the bite, but subsequent work does not bear this out. Benadryl® as the only treatment for snake bite in dogs has apparently worked well, but Schöttler has shown that antihistamines may be dangerous in humans.[50, 51] Their beneficial effect is probably secondary to the sedation they induce. Furthermore they cause the blood pressure to become more labile, which is a doubtful procedure in a situation potentially associated with shock.

The above suggested therapy is that used by many authorities. The main objection to it is the occasional necessity of several incisions with the resultant scarring. Very recently, Wyeth revised the circular accompanying their antivenin.[94] The revised circular states "that there is no value in incision and suction for envenomation." It stresses the adequate use of antivenin. This change is apparently based on animal experiments, the clinical impression of some authorities, and one case report.[39, 95] The case report concerned a probable timber rattler (C. horridus) bite. The patient received incision and suction but did not improve until adequate antivenin was given. This, of course, is no argument against incision and suction, but rather an appeal for adequate antivenin. Antivenin alone would probably be satisfactory for most copperhead bites but might be quite inadequate for a more venomous species. There is still no good evidence that incision and suction are not important parts of the proper therapy. It is to be hoped that serotherapy by itself will ultimately prove to be adequate, but controlled human series are not yet available to justify this approach. This is particularly true in Kansas when dealing with envenomation by the water moccasin and prairie, timber, or diamondback rattler.

Other Poisonous Animal Bites

The black widow spider (Latrodectus mactans) is common in Kansas. This and related species are worldwide in distribution. They are universally feared and are known by many popular names throughout the world. Some of these names are "la malmignatte" (Italy), "karakurt" (Russia), "katipo" (Australia), and "mena vodi" (South Africa and Madagascar). Regionally in the United States, it is called the hour glass, shoe button, T dot, T, or Po-ko-moo spider. The latter name is of American Indian origin. The spider may be identified by the characteristic red markings on the ventral surface of the otherwise jet-black, globose abdomen. This marking is often described as hour-glass shaped but variations do occur. There is frequently a second red mark ventrally at the posterior tip of the abdomen, dorsal to the spinnerets. Immature females have a broken row of red spots up the midline of the back. This is in addition to the typical ventral markings. The legs have a spread of 1½ to 1¾ inches and the abdomen, a width of ⅜ inch. No other Kansas spider has this appearance. It can also be recognized by its characteristic web, spun in corners or crevices, and made up of coarse threads crossing in irregular angles and planes. The male is also poisonous but is rarely seen. It is much smaller and has orange yellow stripes on the abdomen. There are no reports of poisoning by the male.[53-56]

For many years it was believed that the black widow spider was not poisonous, in spite of reports to the contrary. However, there remains no doubt of its venom now. Thorp and Woodson collected 1,291 cases with 55 deaths or a mortality rate of 4 per cent. The mortality is less at present, with more specific treatment, but it still compares favorably with snakebite mortality. The venom is manufactured by two poison glands in the cephalothorax and delivered to the victim through the two hollow chelicerae located above the mouth parts. It is a thick, translucent, oily, lemon-yellow fluid with an acid reaction. The venom is a toxalbumin which is 15 times as potent as rattlesnake venom. Fortunately it is delivered in much smaller amounts. Like most animal venoms, it has many properties. The most striking of these is its ability to stimulate the myoneural junction. This action accounts for most of the symptoms and is probably due to abnormal activation of acetylcholine. It also can directly damage peripheral nerve endings. The venom may liberate histamine from the lungs, contains a potent hemolysin, and has a direct toxic action on the heart. As with some venomous fish, the eggs of this spider are poisonous and the female is most dangerous when filled with eggs.[53-63]

Symptoms of a Black Widow Bite

The symptoms are characteristic and often quite severe. A common location of the bite is on the penis or scrotum sustained while visiting the privy. There is usually a sharp, stinging, burning pain locally. This pain may last until systemic symptoms occur, be transient, or not be noticed at all. Blair allowed himself to be bitten on the little finger and vividly describes the subsequent course. He divided it into three stages as follows:[53]

1) Lymphatic absorption. There is acute pain in regional tissues and the pain spreads centrifugally. Regional lymph nodes become tender and the whole extremity may have a dull, numb, aching sensation.

2) Vascular dissemination. This usually occurs within an hour of the bite, but occasionally the interval may be longer. There is usually a mild headache. The pulse becomes slower and weaker. This is the cardiotoxic action of the venom and EKG changes have been described. The most striking findings are the very severe muscular spasms which are extremely painful. They often start in the epigastrium and spread rapidly to the rest of the body, being most severe in the abdomen, legs, and back. The spasms

cause the legs to be flexed at the hips and knees and drawn up to the abdomen with the arms folded on the chest. Lying flat is intolerable. The blood pressure is often elevated with a slow pulse. There may also be salivation, constipation, urinary retention, delerium, cyanosis, nausea, vomiting, dyspnea secondary to intercostal muscle spasm, anxiety, cold perspiration, insomnia, increased tendon reflexes, increased spinal fluid pressure, conjunctivitis, oliguria, and hyperemia of face. The abdomen is boardlike but is not tender to palpation, and this should be a clue to the diagnosis. When this finding is combined with a slow pulse and perhaps some hypertension, the diagnosis should be more obvious. The stage of vascular dissemination usually lasts 12 to 48 hours.

3) Elimination. All the above symptoms subside. Some albuminuria and facial edema may develop secondary to a toxic nephritis in this stage. Commonly there is slight fever and leukocytosis. An interesting finding is that as the patient improves, the severe cramps subside centrifugally so that the last symptom remaining may be cramps or a burning sensation in the feet. It may take 1 or 2 weeks before all symptoms are gone. Almost all deaths are in children and are from a severe toxic nephritis or from collapse secondary to the spasms and convulsions.[64]

Treatment

Treatment has been quite varied and imaginative in the past. Bogen lists 75 agents used at one time or another.[57] More recently, treatment has become fairly well standardized although different methods still appear. Three things are the mainstay of therapy and they are as follows:

1) Specific antivenin. Antivenin (Latrodectus mactans) Lyovac, Merck Sharp and Dohme, is available in a lyophilized form which is reconstituted to a dose of 2.5 cc. This also is obtained from hyperimmunized horses and the patient must be skin tested with horse serum before using it. In this case, if the patient is hypersensitive, it would be better not to administer the antivenin unless the victim is critically ill. Other methods of therapy would probably be satisfactory. All critically ill patients should receive it, however, and the use of corticosteroids, as with snake antivenin, would help control or prevent serum sickness. The dose is 2.5 cc given intramuscularly. This takes effect in a few hours and one dose is usually adequate. If symptoms are still significant after four to six hours, the 2.5 cc dose is repeated one time.[55, 60]

2) Intravenous calcium. This old standby apparently can depress the myoneural junction. Results are often dramatic with immediate relief of spasms and pain. It is best given as 10 per cent calcium lactate or calcium gluconate. Calcium chloride solution is too irritating to the vein wall and will cause a slough if it seeps into the tissues. The average dose of calcium salts is 10 to 20 cc of a 10 per cent solution. Many say the first few cc should be given fast enough to cause flushing before maximum benefit can be expected. A proportionately smaller dose is given to children. Pain relief usually lasts for a few hours and the injection may be repeated as often as necessary. Calcium gluconate may be given intramuscularly if veins are not available.[65]

3) Hot baths. This is often as effective in relieving pain as other methods and has the advantage of no risk to the patient. It may be used freely.[66]

Rarely the above methods are not successful and other agents have been used with varying success. The careful intravenous administration of 60 units (9 mg) of Tubocurarine solution, Squibb, has relieved severe intercostal spasm and opisthotonus when other therapy failed. This was repeated in four hours as a three-hour drip of 60 units in 1,000 cc normal saline and was successful. Magnesium sulfate intravenously has had results similar to calcium salts, but entails more risk. Cortisone and ACTH have been used as the sole treatment with reportedly favorable results; however, subsequent reports were less enthusiastic. Neostigmine methylsulfate in a dose of 1 mg intramuscularly, followed by atropine gr 1/150, has appeared to help when other agents failed. The rationale of this is not apparent. Convalescent serum and spinal tap with removal of some fluid have had their advocates with varying success.[47, 53-68]

The use of opiates or barbiturates for the pain and anxiety is usually unnecessary where more specific measures are available. The use of barbiturates may be unavoidable in controlling convulsion but they should be used cautiously in view of the neurotoxicity of the venom. Replacement of water or electrolyte deficit is indicated if much vomiting or sudoresis occurs. Vigorous supportive measures for shock may be rewarding.

The symptoms of this bite may masquerade as pleurisy, pneumonia, tetanus, tabetic crises, food poisoning, hysteria, and many other things. The most important differential diagnosis will be between spider bite and an acute abdomen. These symptoms simulate an acute abdomen so closely that many unnecessary laparotomies have been performed for suspected appendictis, perforated peptic ulcer, etc. The finding of a boardlike abdomen which is not tender to palpation should give a clue to the correct diagnosis. The sudden relief of symptoms after 10 cc of 10 per cent calcium gluconate intravenously will often resolve this problem.[55, 63]

The area of the bite usually does not become necrotic unless ill-advised local therapy was used. A local antiseptic will prevent secondary infection and nothing else need be done. A rare bite, however, will develop local necrosis which sometimes becomes sig-

nificant and requires particular care. Incision and tourniquets have no place in the treatment of black widow spider bite.

Brown Spider

The "brown" spider of the midwest is the other significantly poisonous spider in Kansas. It is a member of the family Loxoscelidae, the false hackled bandspinners. The spiders in this family are yellow or brown in color, spin a large, irregular web, and live under stones or bark and in caves.[91] The species in Kansas is probably Loxosceles reclusus, which is a small to medium sized brown spider. Poisoning from its bite was first described from Kansas in 1929. It was redescribed from Missouri in 1957. The venom contains a powerful necrotizing agent resulting in local necrosis and slough. The bite itself is a sticking sensation followed by rapidly increasing local pain. The site of the bite first develops a wheal with two small necrotic spots in the center where the chelicerae pierced the skin. The area then becomes violaceous and subsequently black and dry. It usually sloughs after a few days or a week, leaving a deep, sharply defined, granular area surrounded by raised areas of healthy tissue. The slough may be small and heal rapidly in a few days or may last several weeks and heal slowly. In some patients, a systemic reaction occurs a few hours after being bitten. This consists of a generalized scarlatinaform rash, slight fever, tachycardia, and restlessness. This subsides in a few days and requires no treatment except perhaps antihistamines or aspirin. The local slough may require prolonged therapy before healing occurs but rarely will require grafting.[69, 70]

A related species, L. laeta, occurs in South America and is responsible for "gangrenous spot" or cutaneous arachnoidism in Chile and Uruguay.

Tarantulas are occasionally found in Kansas. A rare bite is painful for a few hours and may show some local swelling and hypersensitivity to touch for a few days.[1]

Insect Stings

Not a year passes but a newspaper article reports someone "stung to death" by bees. Death from hymenoptera venom occurs either by overwhelming poisoning from multiple stings or, more commonly, by anaphylaxis in a hypersensitized person. About 75 per cent of those persons, such as beekeepers, who suffer recurrent stings, become relatively immune to the venom. This immunity persists as long as they receive a booster sting every month or so. Two per cent of such people, however, become hypersensitive and a sting may result in fatal anaphylaxis. There is not always a history of recurrent stings before the first anaphylactoid response. Some persons may become hypersensitive after one sting. Sometimes no definite history of a previous sting is obtainable although it was probably suffered in childhood and forgotten.[71]

The bee sting apparatus is 2.5 mm. long and consists of three barbed shafts surrounding the poison canal. This canal is connected with a poison sac which in turn receives its venom from an acid secreting gland. An alkaline secreting gland empties into the poison canal also and here the two secretions are mixed before injection. The composition of hymenoptera venom varies with the species but essentially contains the following substances:[17]

1) Histamine—in bee, wasp, and probably hornet venom.

2) 5-hydroxytryptamine—in wasp, hornet but not bee venom.

3) Acetylcholine—hornet venom is the richest animal source of this substance, being 3 to 10 per cent acetylcholine. It is absent from bee or wasp venom.

4) Protein-like substances—these are not enzymes, but appear to be quite toxic.

5) Enzymes such as hyaluronidase and phospholipase A. These are found in bee venom and the latter enzyme can form lysolecithin in the same manner as in snake venom.

These substances in various combination give rise to the four main effects of hymenoptera venom:[71, 72]

1) Hemolysis—from lysolecithin.

2) Hemorrhage—the coagulation time is increased and uterine bleeding or melena can occur.

3) Neurotoxicity—used by some species to paralyze its prey, but not of importance to man.

4) Histamine and serotonin (5-hydroxytryptamine) effect.

Treating the uncomplicated bee sting is not usually required of the physician and the local wheal disappears in 24 hours. Baking soda to the area helps although the rationale that it is neutralizing formic acid is not correct. Formic acid is absent from bee venom. Antihistamine lotion is also helpful. The sting should be removed and is done best by carefully scraping it out with a knife blade. Grabbing it with forceps only compresses the poison sac and instills more venom. This is a very important point when dealing with a hypersensitivity reaction. Stings in the mouth may cause enough swelling to require tracheotomy. A fatal dose of venom requires a great many stings unless the patient is hypersensitive. Five hundred stings have been fatal. Multiple stings cause a picture much like that of an allergic reaction with bronchospasm and marked generalized edema. The large amounts of venom may also cause intradermal and subcutaneous hemorrhage with hematuria, melena, and hematemesis. There is usually vomiting, diarrhea, and collapse. The treatment is supportive with epinephrine, oxygen, intravenous fluids, and corticosteroids. The steroids should be continued at least

10 days as a generalized urticaria often develops one week after the stinging. Most recover in a few days and deaths are mainly in children.

Some stings are followed by slight edema of the pharynx and uvula, which may be treated with oral antihistamines. The serious hypersensitivity reaction consists of sudden onset of a sensation of constriction in the throat, throbbing headache, flushed face, swelling of the upper lip, numbness and tingling in the hands, dyspnea, cyanosis, and collapse. Collapse can occur within 60 seconds and death within 15 minutes of the sting. The patient will be in severe shock with fecal and urinary incontinence, a rapid, feeble pulse, and profuse sweating. Autopsy has shown generalized petechiae, pulmonary edema, and congestion of the viscera. With such a rapidly developing hypersensitivity reaction, the most important facet of treatment is the speed with which it is given. There have been many cases reported where the patient appeared to be dead, only to respond to epinephrine. This is usually given in a dose of 0.5 cc of a 1:1,000 dilution of aqueous epinephrine subcutaneously. In an extreme case, 1.0 cc of a 1:100,000 dilution may be given intravenously. Intravenous Benadryl,® aminophylline, and hydrocortisone have been used with good results. One apparently fatal case in a child responded only after intravenous calcium gluconate, the other measures having no effect. The hypersensitive patient should carry a Syrette of epinephrine, or isoproterenol sublingual tablets, with him at all times.[72, 73, 88]

The honey bee is probably the main offender, but an occasional person will be hypersensitive to other hymenoptera such as wasps, yellow and black hornets, and yellow jackets. Desensitization with specific antigens, or a mixture of antigens if the species is unknown, should be attempted in all hypersensitive patients. Several techniques have been used with fair results. Success depends upon using an antigen derived from the whole insect and not just from the venom. Specific antigens are now available commercially.[73-75, 93]

Related to the wasps are the "velvet ants." These are members of the genus Dasymutilla, and there are at least seven species in Kansas. These are the ¼ to 1¼ inch long, hairy, ant-like insects seen running on the ground in dry, sunny, or sandy places. The females are wingless. The color varies with dark bodies and white, yellow, golden, orange, or red hair. The females can sting severely and frequently do when stepped on with the bare feet. The reaction is the same as with bee sting. No hypersensitivity has been reported.[76]

The insect family Reduviidae is represented in Kansas by at least six species. They are known commonly as "conenoses," "masked hunters," "kissing bugs," "wheel bugs," "assassin bugs," and "Mexican bed bugs." They are small to large, stout insects with a narrow head and a short beak. They are usually brown or black. In California, Central and South America, their bite can transmit Chaga's disease but that is unreported from Kansas. The bite may be mild but is often severe with increasing local pain and swelling, intense itching, and occasionally generalized urticaria. Necrosis may develop at the site of the bite. The effects of the bite are variable. Most subside in 24 hours, but some have reported urticaria or residual tenderness at the site of the bite for many weeks. It has been suggested that the bite could prove fatal to a child but this has not been proven. Oral antihistamines and local warm, moist compresses are usually adequate therapy.[1, 70, 76, 77]

The blister beetle is well known in Kansas. The several species here are members of the family Meloidae. If this insect is crushed or injured and its body juices contact the skin, painful large blisters can form. This is due to the presence of cantharidin in their body juices. There is no antidote for this substance and care should be taken when opening these blisters as the vesicle fluid can cause more blisters. I have had best results by carefully evacuating the blister and applying an antiseptic such as Merthiolate® to the blister base. Unopened blisters subside slowly and frequently break forming more blisters.

"Urticating caterpillars" are a problem in some parts of the world. These are hairy caterpillars belonging to several species. Some of their hairs are barbed, hollow, and contain a mild venom. The hairs are loose and can blow into the face or elsewhere on the body, causing a severe dermatitis. More commonly, they are stepped on or handled, leading to a local urticarial dermatitis. The Maia moth (Hemileuca maia) and the Io moth (Automerus io) have this faculty in Kansas. Massive numbers of urticating caterpillars have caused schools to be closed in the southern United States. In Panama they have been associated with regional lymphadenitis and eosinophilia. The pain at first is severe, but lasts only a short time. It may be necessary to use codeine for the severe pain. Oral antihistamines have not been helpful.[76-79]

Several other Kansas insects are capable of biting, but the result is usually no worse than a bee sting and will frequently not require treatment. The giant water bug or "electric light bug" (Belostomatidae) and the back swimmers (Notonectidae) are two common water insects which bite. Rove bettles (Staphylinidae) have an irritating secretion. They occasionally fly into the eye causing a chemical conjunctivitis. Buffalo gnat, black fly, or turkey gnat (Simulium vittatum) may suddenly appear in a new area after their eggs are washed there by flood waters. They have a painful bite. They fly in swarms and can kill horses, mules, and cattle in a few hours from the combination of blood loss and venom. Bed bugs, mosquitoes, and fleas are usually of no consequence. Some persons, how-

ever, have a marked sensitivity to their venom and suffer recurrent, painful, pruritic bites. A common source of irritation for newcomers to the San Francisco area are bites from the human, dog, or cat flea. They are also plentiful in Kansas. After several bites, the person becomes immune and no longer is bothered. A few persons become hypersensitive and are in constant misery. Good results were obtained by desensitizing these people with an antigen derived from the whole bodies of the three species of fleas.[80]

The imported fire ant (Solenopsis saevissima richteri) is absent from Kansas so far. Since its introduction to the United States at Mobile, Alabama, in 1920, it has slowly spread and now has reached Arkansas. It has a very painful sting and can cause anaphylaxis.[81]

Other significant, non-insect arthropods are absent from Kansas. We do have a small scorpion with a mild sting but no dangerous species as is found in Arizona. The largest Kansas centipede is of no consequence. The non-venomous whip scorpion, much feared elsewhere in the United States, is not found in Kansas. A potentially dangerous tick does exist in Kansas. This is the common dog tick (Dermacentor variabilis). This species has caused canine paralysis in the northeastern United States. It has caused tick paralysis in humans in the Carolinas and Georgia. No case has been reported from Kansas yet. Tick paralysis is due to a specific neurotoxin injected by the female tick while she is feeding. The female is dangerous only at irregular times during the year. The bite is painless and causes an ascending Landry's type of paralysis. This ends in respiratory failure and death if the tick is not found and removed. This disease is found in the northwestern states, British Columbia, and in Colorado, where it is due to the Rocky Mountain woodtick (Dermacentor andersoni). This species is not found in Kansas. The treatment consists of removing the tick and administering artificial respiration, if necessary, until spontaneous respirations resume.[82-84]

Water Animals

Anyone who has been fishing in Kansas is aware of the sharp pectoral or dorsal spine on the catfish. Some species of the catfish family (Ameividae) have an actual venom apparatus. This consists of a poison gland at the base of the pectoral fin. It discharges its venom through a slit and movement of the fin allows it to flow down the pectoral spine. In addition, the dorsal spine is covered with a thin integument containing small ductless poison glands. Any break in this integument releases the venom. The venom is neurotoxic and hemolytic and causes a sudden severe burning pain which later radiates up the extremity. It may last 30 minutes to several hours. There is usually little local effect except when secondarily infected by dirt or slime carried into the wound. The wound should be carefully cleaned. Ice packs or a cooling lotion have helped the pain. There are several venomous species in North America, some reaching 12 inches in length. Their common name is "madtom."[85]

There are no venomous turtles anywhere, but turtles can be poisonous if eaten. The flesh of the Carolina box turtle (Terrapene carolina) is palatable but eating it is not without risk. These turtles eat mushrooms. They are not affected by the muscarine in some mushrooms and mushroom poisoning has occurred in man after eating the turtle. These are common turtles in Kansas.[11]

The skin secretions of some salamanders, toads, and frogs are very irritating to mucous membranes. Some contain poisons related to digitalis and are capable of killing small animals who eat them. No species in Kansas is significant in this regard.[11, 87]

There are no poisonous lizards in Kansas. Many have teeth and can bite, however.

Of the two venomous mammals in the world one exists in Kansas. This is the short-tailed shrew (Blarina brevicauda). The other is the duckbilled platypus of Australia. This shrew produces a venom in its submaxillary glands and delivers it to the base of the lower incisors. This extremely small mammal apparently uses it to disable mice and possibly to narcotize invertebrates. Although common, it is rarely seen. It is usually mistaken for a small mouse. It is of interest only because of its oddity, as no human fatality and only a few local reactions from bites have occurred.[86, 89]

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pHisoHex in Newborn Babies

For the Prevention and Control of Staphylococcic Skin Infection in Hospital Nurseries

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An increasing number of reports during the past two years of hospital epidemics of staphylococcic infection have served to focus attention upon a continuing medical problem: the difficulty of controlling infections, particularly those of the skin, among the newborn in hospital nurseries. Although published reports have dealt chiefly with large hospitals in which the infection quickly spread to many patients, the problem is one which must be faced also in hospitals of medium and small size in which facilities and personnel are limited.

To decrease both the mortality and morbidity of neonatal infections requires the simultaneous use of several proven technics. Some of them are more important than others but all are necessary for the overall accomplishment of attaining the goal of a marked decline or disappearance of neonatal skin infections.

Suggestions of the American Academy of Pediatrics[1] for dealing with this situation, issued in March, 1958, include such prophylactic and preventive measures as: redesigning of nurseries for rotation nursery, adoption of rooming-in procedures where space is available in obstetrical wards, isolation of prematures with individual sources of outside bacteria-free air for each incubator, scrupulous cleaning and decontamination of bassinets after each occupancy, control of dust, antisepsis of umbilical areas, frequent inspection for nasal carriage of staphylococcus among nursery personnel, and the use of deter-

A one-year study is reported in which pHisoHex baths were utilized for all 283 newborn infants passing through the nursery of a hospital is reported. The efficacy of this preparation in preventing skin infections, including those of staphylococcic origin, is confirmed. No skin sensitizations were observed. Minor rashes and skin irritations in babies cleared routinely without discontinuing the baths in any case. On the basis of our findings in the hospital, we are recommending continued bathing of infants with pHisoHex after discharge from the hospital.

gents containing 3 per cent hexachlorophene both for scrubbing of personnel who handle infants and for bathing the infants themselves.

The putting into practice of these recommendations adapted to local conditions has in general lowered both the morbidity and mortality of many types of infectious diseases in the neonatal period. However, the emergence of the fact of antibiotic-resistant staphylococcal infections of the newborn and the discovery that the organisms are spread not only by nursery personnel but by air transmission from infant to infant has focused attention on means of combating this situation.

Of all measures suggested, the one most easily put into practice is the washing of the skin of the newborn and all who come in contact with it with detergents containing hexachlorophene. Since infections can be borne to the infant by air and dust, as well as by handlers, it is also logical and more practical to place the greatest emphasis on creating a barrier on the skin surface, rather than the impractical complete asepsis of the environment. This paper is a report on the institution of this measure several months prior to the issuance of the suggestions by the American Academy of Pediatrics. Results have been observed over a one-year period and confirm both the advisability of the institution of this step as well as the practicability and acceptance by the nursing personnel and mothers.

pHisoHex,* a synthetic sudsing skin detergent composed of sodium octylphenoxyethoxyethyl ether sulfonate, lanolin cholesterols, and petrolatum, to which has been added 3 per cent hexachlorophene, was selected as the germicidal agent. It has been shown by Allers to be more effective in reducing hand bacteria on a schedule of a ninety-second scrub once or twice daily than is liquid soap when used for three-minute scrubs six or eight times per day. It is in wide use for wound cleansing and as a bacteriocidal agent in preoperative scrubs in hospital use as well as in private practice.

Considerable discussion preceded the institution of pHisoHex baths for newborn infants in our hospital because of rumors that its use had caused skin sensitization in some cases. However, an extensive search of the literature failed to confirm these rumors, but did reveal several well documented reports of its use in the newborn for the reduction of skin irritations and infections.

Farquharson,[7] in a five and a half month study in which pHisoHex was the bathing agent for 4,293 newborn infants, observed no single incidence of irritation even in prematures. It was noted that before the use of pHisoHex the nurses' hands became very sore and abraded from the frequent scrubs, and a nurse would have to be kept off duty until these areas cleared up. Using pHisoHex,* nurses had no further complaints regarding skin irritation and there was no further difficulty in enforcing the rules regarding hand washing. Farquharson was able to lower the incidence of staphylococcal infections in nurseries from 6.5 per cent to 0.6 per cent by the adoption of this procedure.

Similar lack of irritation and sensitization to pHisoHex has been noted in a study of nurses assigned to routine newborn nursery duty by Allers and others. Hardyment stresses the importance of applying the protective film of hexachlorophene in detergent as soon after birth as possible.

Method

Newborn babies were bathed according to instructions furnished by the manufacturer. A nurse, after wetting her hands, takes one teaspoon of pHisoHex and works it into a lather. For additional lather, more water rather than more detergent is then added. The lather is applied to all parts of the baby's body including the head, but taking care to avoid getting suds in the eyes. Care is taken to thoroughly cleanse all folds and creases. The diaper area is washed last. All lather is removed with additional amounts of water and the baby is patted dry with a soft towel. This bathing procedure is repeated every second day.

Bathing with pHisoHex is recommended to the mother to be continued after leaving the hospital. On about the fourth postpartum day, mothers are capped and gowned and taken to the nursery where the nurse explains and demonstrates the procedure. A personal five ounce squeeze bottle of pHisoHex is assigned to each infant at the first bath. The unused portion, consisting of roughly four ounces, is given to the mother to take home on discharge from the hospital on the fifth postpartum day. Mothers are instructed to continue the pHisoHex baths indefinitely, but for at least three weeks in any event.

Results

Prior to institution of pHisoHex baths as routine, lotion baths were usually given, with an occasional baby under the dry care method. While no computation has been made, we estimate the skin infection rate under these procedures, over a five year period, at about 25 per cent. Infections included impetigo, cradle cap and diaper rash as well as staphylococcic skin infections. It is our opinion that the lotion baths made babies prone to rash.

With 283 newborn babies who received pHisoHex baths during the 12 month period covered by this report, we saw no pyoderma, no staphylococcus enteritis, no cradle cap, and no evidence of skin sensitization. A minor rash was seen in a few babies, but cleared up routinely without discontinuing pHiso-

*Winthrop Laboratories

Hex baths and without additional treatment. It is our belief that these rashes were chiefly due to occlusion of pores and were self-limiting.

In one baby a rash developed on an area to which calamine lotion had been applied. However, it was not necessary to discontinue the pHisoHex baths in this or any other patient. The fact is that our concern over infections in the nursery has almost disappeared upon the institution of the pHisoHex baths.

Among babies seen after discharge from the hospital, an occasional miliaria (prickly heat) was seen.

Upon questioning, the mother in each instance admitted that she had discontinued the pHisoHex baths, and upon their reinstatement all cases cleared routinely. In a few cases of secondary skin infections we have recommended three pHisoHex baths daily, with gratifying results in all instances.

With respect to sensitization among handlers of infants, we have seen no skin irritations. Both nurses and mothers have commented upon the ease with which the procedure is carried out, and upon the lack of irritation to the hands. Further, the cost of this preparation is less than the combined cost of soaps, oils, and powders mothers usually purchase for the care of baby's skin.

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Staphylococcal Pneumonia

Nitrofuran Treatment of a Case in an Infant

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Staphylococcal pleuropulmonary infections are relatively frequent in young children. They also tend to run a more severe course in patients of this age group, and most of the fatalities occur in infants under one year of age.[1] Early hopes that penicillin or other antibiotics would solve this problem have been frustrated by the rapid increase and spread of antibiotic-resistant strains of staphylococci. In the following case, staphylococcal pneumonia and empyema in an infant were complicated not only by drug resistance to most common antibiotics, but also by the appearance of an allergic reaction to the antibiotic selected on the basis of in vitro tests. Fortunately the pathogen was sensitive to the nitrofurans, and treatment with Furacin (nitrofurazone) and Furadantin (nitrofurantoin) was dramatically effective.

Staphylococcal pneumonia and empyema in a four months old infant were complicated by drug resistance of the pathogen to most common antibiotics, and by a subsequent allergic reaction to the antibiotic selected on the basis of bacterial sensitivity tests. Thoracentesis with drainage and repeated intrapleural instillations of diluted Furacin Solution, and peroral administration of Furadantin were followed by dramatic improvement and uneventful recovery.

Case History

R. H., a 4 months old white male infant was hospitalized with a three weeks' history of mild upper respiratory infection, the main symptoms being fussiness, cough, and transient elevations in temperature. He had been examined one week earlier because of a fall from the bed to the floor at home, but x-ray studies of the pelvis and lumbar spine as well as examination of the head and neck revealed no bony lesions or anomalies. Examination of the chest at the time also failed to disclose any sign of

an alleged "cold" which the child had had for two weeks. Hospitalization was advised six days later after the infant began to have some breathing difficulty with grunting respirations and paroxysms of severe cough.

At admission, leukocyte count was 15,300 per cu. mm.; Polymorphocytes 65 per cent (staff forms 3 per cent); lymphocytes 30 per cent; eosinophils 3 per cent. Urinalysis was normal.

Rectal temperature was 102 F. There was a flattened percussion note over the anterior and posterior lower right lung fields. Breath sounds overlying this area were quite harsh, accompanied by a few moist rales. The abdomen was slightly distended but soft and without palpable masses within the abdominal cavity. There were no abnormal neurological findings.

The child was placed in a croup tent with cold stream oxygen and mucolytic detergent solution (Alevaire), and given 300,000 units of aqueous penicillin IM every four hours. For 36 hours there was little change in the patient's condition, but rectal temperature rose to 103 F. and a chest x-ray, taken on the third hospital day, showed fluid within the pleural space and in the interlobar septum. A thoracentesis through the right eight infracostal space in the anterior axillary line produced only about 2 cc. of clear straw-colored fluid. A smear and a culture showed no organisms.

On the same day the patient began to have a productive cough. Sputum was obtained for smear and culture, both of which revealed Staphylococcus aureus, coagulase positive and sensitive only to Chloromycetin (chloramphenicol), bacitracin, and Furadantin. Accordingly Chloromycetin was given, 100 mg. IM every 6 hours. After the third dose, the child became increasingly irritable and a generalized urticarial eruption appeared. The leukocyte count had risen to 23,100 with 64 per cent polymorphocytes, 31 per cent lymphocytes and 5 per cent monocytes. A second x-ray revealed increased intrapleural fluid. Upon thoracentesis, 30 to 40 cc. of creamy, purulent fluid gushed from the trocar. Smear and culture were positive for coagulase-positive Staphylococcus aureus with the same sensitivities as above.

In view of the apparent allergy to Chloromycetin, it was decided to instill Furacin Solution intrapleurally. The commercially available 0.2 per cent Solution was diluted with an equal amount of sterile physiologic saline and 10 cc. of this mixture instilled twice daily into the pleural space, with suction catheter clamped off for one hour. The appearance of the fluid draining from the pleural space changed almost immediately, becoming thinner and less tenacious. Twenty-four hours after irrigation was instituted, the child became less irritable and voluntarily resumed taking of food.

Instillation of Furacin was discontinued then and Furadantin Oral Suspension prescribed, 4 cc. every four hours. Within another 24 hours, the patient was afebrile, laughing and playing in his crib. X-ray of the chest showed a marked diminution of pleural fluid and almost complete re-expansion of the affected lung.

Recovery proceeded satisfactorily thereafter and the child was afebrile until discharged two weeks later. The pleural catheter was removed on the ninth day after beginning of Furacin treatment. An x-ray prior to the patient's discharge showed complete disappearance of pleural fluid and re-expansion of the lung; the blood picture was normal. A follow-up examination a month later showed no evidence of permanent pleural thickening or other sequelae. Six months later, when the child was a year old, his physical and mental growth was normal.

Discussion

The importance of early and adequate treatment of staphylococcal pneumonia in infants is highlighted by a recent study of 530 cases of lower respiratory tract infection in children aged under two years: there were only 35 cases of staphylococcal pneumonia among this group, yet these 35 included eight of the 24 fatal cases.[2] The severity and high mortality of the syndrome are stressed by several other recent clinical reports.[3, 4]

In our case, treatment was difficult because the organism was resistant to all common antibiotics except Chloromycetin and bacitracin. When use of Chloromycetin was followed by an allergic reaction, we used Furacin and Furadantin in preference to bacitracin, which, as repeatedly observed specifically upon intrapleural instillation of suitable doses of the solution to infants, has nephrotoxic tendencies.[5]

The nitrofurans, a group of synthetic organic compounds whose antibacterial effectiveness was first reported by Dodd and Stillman in 1944,[6] have since then become widely used in several fields of clinical medicine.[7] These drugs inhibit pyruvate metabolism and their clinical use is comparatively free of serious side reactions. There are several published studies indicating that most strains of antibiotic-resistant staphylococci are highly sensitive to Furacin[8] and Furadantin.[9] The nitrofurans also possess the advantage that development of bacterial resistance to them is slow and limited,[10, 11] and that highly penicillin-resistant strains which may become spontaneously resistant to many apparently unrelated antibiotics, remain sensitive to the nitrofurans.[12]

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Abdominal Pregnancy

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Abdominal pregnancy, though fortunately rare, is one of the extremely serious and too frequently catastrophic conditions encountered in the practice of surgery and obstetrics. This condition was reported as early as 1700 by Saviard and before that, in Spain, Albucasis wrote of the condition about the beginning of the 11th century. In 1500 A.D. it is reported that a successful removal of an abdominal pregnancy with survival of child and mother occurred and James Pemrose, a surgeon, removed successfully abdominal pregnancies from the same patient in the years 1591 and 1594 A.D., with survival of the mother.[1] In 1759, an American named John Bard removed successfully an abdominal pregnancy,[2] and in 1840 and 1876 papers concerning extra-uterine pregnancies were written and published in this country. During the past twenty years, the literature has been rather voluminous concerning extra-uterine pregnancies. I wish to report two cases and discuss very briefly the management of this disorder.

Case Number One: Mrs. E. H., a 31 year old white married female, was admitted to the hospital on June 13, 1954, complaining of a mass in the abdomen. She had had no prior surgery and one and one-half years previous to this, had delivered without complication, her first pregnancy. This child was alive and well at the time she was admitted to the hospital. Her menstrual periods had been normal until the previous July, 1953, at which time her periods stopped. She had not had a normal period since. Her abdomen began to enlarge and was accompanied by swelling of the breasts and some nausea and she believed that she was in a condition of pregnancy. She stated that she felt movement in October and the following January or thereabouts, the abdominal enlargement stopped and she felt no more movement. She visited a physician in March for prenatal care and at the second visit it was deemed that her pregnancy was not normal and x-rays were made of the abdomen which revealed a symmetrical, globoid mass in the lower abdomen. No bones or teeth were seen in the x-ray. She failed to return to her physician until about ten days prior to her admission to the hospital. In April and May, 1954, she had a one day each, menstrual period, of very scanty flow. On admission, she was seen to be a well developed but rather poorly nourished, almost emaciated female, of about stated age. She was noted to have many carious teeth and extremely poor oral hygiene. The heart, lungs and breasts had no abnormalities. The abdomen revealed many striae and a visible and palpable mass extended out of the pelvis to the level of the umbilicus. This was smooth and symmetrical, was not tender, but had a thick or doughy feeling and was nearly fixed and hard to move. Pelvic examination revealed the cervix to be clean and firm and small and smooth. The fundus was palpated to the right of the larger mass and was six inches in diameter and smooth and symmetrical and attached to the larger mass which extended from the cul-de-sac to the level of the umbilicus. This mass was firm and of a more solid than liquid consistency. Urine examination and blood counts were within normal limits and it was the opinion of the referring physician that she had an ovarian cyst or possibly a teratoma of the ovary. At operation, a large cystic mass extending to the umbilicus from the pelvis was attached to the sigmoid and transverse colon, the omentum, the anterior abdominal

wall and all surfaces of the pelvis. This mass was covered by some large tortuous veins and had a semi-grey, rather friable, cystic, thick wall. Aspiration of this cystic mass revealed an almost fecal appearing, non-odorous thick fluid. The mass was elevated around the periphery with considerable difficulty due to the denseness and thickness of the adhesions. However a plane could be established and it was discovered to have a primary attachment to the uterus and left tube. There was surprisingly little bleeding during this dissection. After removal of the mass, it was opened and the fetus and placenta were removed. The abdomen was closed without drainage. The fetus weighed 435 grams and measured 28 centimeters in a crown to heel length. The placenta weighed 300 grams. The estimated age of the fetus by the pathologist was five and one-half months. Aside from a temperature elevation to 101 degrees on the second postoperative day, this patient's course could be said to have been very uncomplicated.

The second patient was a colored female, age 33, admitted on September 3, 1953. She had had two previous abdominal operations according to her history, one for appendicitis and one for a ruptured tube or ovary. She had one previous pregnancy eleven years before, terminating successfully without complication and the child was alive and well at the time she was admitted. She had been hospitalized two weeks before this admission for a partial intestinal obstruction which responded to naso-gastric suction and fluid replacement. Her present illness had begun twelve hours before her admission with severe abdominal pain, nausea and vomiting. The pain was recurrent and colicky of type accompanied usually, by vomiting. Her menstrual periods were regular until two months before her admission and she had been amenorrheic for two regular menstrual periods. The temperature, pulse and respirations were normal with the exception of the white blood count of 14,000. The abdomen was somewhat distended and slightly obese and tender in all quadrants with marked tenderness in both lower quadrants. The pelvic examination revealed an exquisitely tender mass in the pelvis and the fundus could not be positively identified. Bowel sounds were present in the abdomen, were high pitched, tinkling and of a rushing or intermittent type. X-ray examination of the abdomen in the A-P, right lateral decubitis, and sitting positions revealed dilated loops of small bowel partially filled with gas and fluid and suggestive of small bowel obstruction. During operation performed several hours after admission and after fluid and electrolyte replacement, several loops of dilated bowel were found in the upper portion of the abdomen and collapsed small bowel in the lower abdomen. Some of the dilated loops, however, were well adherent to a thick cystic mass in the pelvis. An adhesive band was found to encompass a strangulated loop of mid-small bowel and this was released, clearing the intestinal obstruction. No resection was necessary. The pelvis was then inspected and the mass was found to be covered by the sigmoid colon and its mesentery. On raising this, a piece of placenta-like tissue was found adhering to the right side of the sigmoid. Bleeding from this area was copious and then profuse and a pack was inserted to control this. Approximately 1,000 cc. of dark, bloody fluid, rather thick, was aspirated from the cystic mass lying to the right side of the placenta in the pelvis. The cystic mass was then opened and palpation inside of this revealed the fetus which was removed after clamping and cutting and ligating the cord with chromic catgut. Because of the site of the placenta lying on the sigmoid and right lateral pelvic wall and because of the profuseness of bleeding at the slightest manipulation of this structure, it was deemed inadvisable to attempt its removal and the abdomen was closed after a rubber drain was inserted into the pelvis and brought out the lower pole of the wound. The patient's condition was rather precarious. Two pints of blood were administered on the day of the procedure and two more were given after her return to her room. After the third day, peristalsis was reestablished and aside from a rather profuse drainage from the lower pole of the wound, she presented no major postoperative problems. This drainage continued for approximately one month. She was discharged from the hospital on her fourteenth postoperative day. She was returned once to the hospital two weeks following her discharge, because of a partial small bowel obstruction which was treated by naso-gastric suction and fluids. She has had no further complications and no further pregnancies and at the present time is working as a domestic in our community.

Review of the literature of abdominal pregnancies since 1948, reveals the impression by most writers, that the correct diagnosis is made preoperatively in only 30 to 35 per cent of most the cases.[3] Inasmuch as the disease seems to be increasing in frequency and therefore will probably provoke a higher index of suspicion on the part of the surgeon and obstetrician, this percentage will doubtlessly increase. Among the diagnostic aids aside from the history and examination, x-ray features, when present, suggestive of extra-uterine pregnancy are: an abnormal presentation, frequently transverse with the convexity of the back cephalad, absence of uterine shadows around the fetus and signs of fetal death which are overlapping of the skull bones and hyperflexion of the spine or calcification of the amniotic sac. Some authors suggest that hysterosalpingograms are to be of value in confirming suspected diagnosis, while others enthusiastically and heartily condemn this practice.[4]

Surgical intervention is the only treatment and the choice of the proper time for the operation and the management of the placenta are the real troublesome facets to this problem. It is the general opinion among writers on this subject during the past several years, that if no acute emergency exists and that the fetus is close to the age of viability or about 36 weeks, the patient may be watched until this fetal age is attained. If however, the diagnosis is made early in the pregnancy, surgical intervention should not be delayed. At operation, the decision to assume a "hands off" policy or attempt removal of the placenta may be a real perplexing one. If the fetus has been dead for some time and maceration of the placenta and fetus are present, they should be and probably can be removed with a minimum of hazard from hemorrhage. But if the fetus is alive or just recently dead, the vascularity of these structures is truly terrific and uncontrollable hemorrhage liable to be catastrophic. Most writers report that the central placenta site is usually on or about the tube or uterus and sacrifice of the internal genital organs, leaving one or both ovaries when possible, should be done if it will enable or facilitate the removal of the placenta. If, however, bowel, bladder, omentum or parietal peritoneum are primarily the placental site, it is thought best to ligate the cord with absorbable material, close to the placenta and trim the amniotic membrane back and gracefully back away. Any attempt to pry loose the edge of a vascular and friable placenta to see how easily it will come away should be viewed with circumspection and great alarm. In fact, don't do it. Closure of the abdomen without drainage usually leads to a much lower morbidity rate. Patients with placenta left in situ have a considerably higher morbidity than those in whom the placenta can be removed. However, the greater mortality occurs when the placenta is removed, primarily because of danger of hemorrhage. Leaving the placenta leads to the formation of adhesions and intra-abdominal hemorrhage. However, these eventualities may be treated when met. The incidence of abdominal pregnancy has been quoted at 1:3,200 in areas of nearly 100 per cent colored population and as infrequently as 1:11,000 in areas of less colored concentration. The frequency is said to be sixteen times greater among colored women than among white or other races. This interesting condition presents a real challenge to the surgeon and it is doubtful that the infrequency of these cases will allow any one person to become a real expert at handling them.

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Homemade Rocket Injuries

Sputnicks, Explorers and other rockets currently being fired into space also have fired the imagination of teen-agers—often with tragic results.

Injuries to the hand from homemade rockets are becoming much more frequent, eight severe injuries having been encountered in the Detroit area alone in the first six months of 1958, report three Detroit surgeons.

The average age of the victims involved is about 15 years. "It requires but little imagination to appreciate that the problem of injuries to the hand from homemade bombs or rockets is one that affects young people almost exclusively, the wisdom or timidity conferred by advancing years militating against the unnecessary exposure of life and limb in search of bigger and better bangs," the doctors said.

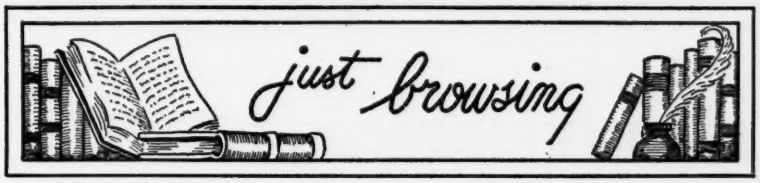
The expenditure of more than a little ingenuity is necessary in the manufacture of such toys and, in fact, these patients "represent a group of highly intelligent children, able with their hands and addicted to building and managing quite intricate instruments and tools. That this type of individual should be so severely handicapped is a matter of some concern, more so when one notes the association of injuries to the face, eyes and ears in a rather large number of cases."

The authors, Dr. F. Augustus Arcari, Dr. Robert D. Larsen and Dr. Joseph L. Posch from the Department of Surgery, the City of Detroit Receiving Hospital, discuss 37 patients, aged 12 to 17. Two of these children died from their injuries; the vision of four was impaired, one permanently; several mangled their hands and lost from two to four fingers.

In the treatment of hand injuries primary emphasis was on maintaining an intact thumb and secondarily was the attempt to retain use of a thumb opponent. Tendon repair also was vitally important in the presence of these massively destructive injuries.

In the postoperative period tendons require about three weeks to attain functional strength. At this time active exercises may be instituted. Secondary procedures involve the application of skin, tendon and nerve grafts and even the construction of digits.

In conclusion the authors said that treatment of these particular injuries is aided to a considerable extent by the young age of the patient, "with his excellent recuperative powers and remarkable capacity for compensating and adapting to disability."



During the preparation of the Centennial issue of the JOURNAL we learned many interesting facts about Kansas history. Sister M. Paul, of the Sisters of Charity, at Xavier, supplied the following notes about St. John's Hospital in Leavenworth, which was the first civilian hospital in the state of Kansas. It should be interesting to many.

"The oldest civilian hospital in the state is St. John's Hospital. It was established by the Sisters of Charity of Leavenworth, who, one hundred years ago, brought the first trained nurse to the Territory.

"The hospital was begun in 1863 and completed in 1864, on land donated by Bishop John Baptist Miege, S.J., Vicar-Apostolic of the Indian Territory, who had asked the Sisters to come to Leavenworth in 1858 to establish hospitals, schools, and an orphanage.

"The small hospital, which should have been completed in November 1863, was still unfinished on March 15, 1864, when the first patients, 'a whole family of poor, white refugees from Alabama' were admitted. They were bathed, combed, shorn, and freshly clad—their old garments having made a bonfire in the back yard. After several months of careful nursing the entire family recovered. The second patient was a consumptive, who died a most edifying death.

"In November a lumber wagon stopped in front of the hospital and five men were taken from it and laid on the sidewalk. They had been caught in a blizzard while buffalo hunting near Fort Harker. The man at the depot had hired the lumber wagon to carry the frozen men to the hospital. Passing pedestrians helped to take the men inside. It was necessary to amputate the feet of two of them, a third lost his ears, a fourth his toes, and the fifth died.

"The Superintendent, or Superior, of the Hospital was Sister Joanna Bruner, the first trained nurse in the state. She had received her training and institutional experience in Kentucky and Tennessee.

"At St. John's, Sister Joanna probably had three Sisters helping her. The beginning years were precarious, and during the first winter Sister Joanna had to apply to Mayor Anthony for fourteen cords of wood to feed the woodstoves. Mayor Anthony also paid the transportation home of the four men that had recovered from the blizzard. No state appropriations were ever given to St. John's and as far as we can determine even modest requests to the State Legislature, such as this one made probably in the 1870's, were not honored:

"To the Honorable Members of the Legislature and House of Representatives:

Gentlemen:

We, the undersigned, place before your Honorable Body a Bill for the maintenance and care of the sick poor, cared for by the Sisters of Charity of St. John's Hospital, Leavenworth, Kansas. Heretofore we were paid $3.00 per week; since the last time your Legislative Body met, the sick were left to us unprovided for.

You have a house to receive the poor, but the Hospital is for the sick. We give our services gratis, but we must be aided to run the Hospital. Therefore, we hope your Hon. Body will not hesitate to allow the Bill placed before you; we do not ask for an appropriation, only for the small pittance of $3.00 per week for the sick poor who have been cared for by us. Below you will find the itemized bill, and names of those persons cared for at St. John's.

Should any of the members of your Hon. Body doubt it, we refer them to the attending Physicians: Drs. M. S. and D. W. Thomas, Nealy and Philips."—*O.R.C.*

PRESIDENT'S PAGE

DEAR DOCTOR:

Why is there such apathy on the part of many of our members in attending our annual meetings? What are your suggestions for the place, the type, and the length of meetings? Your ideas are needed.

The Constitution and Rules Committee proposed at the Topeka meeting the formation of a new body to be known as a Format Committee. This recommendation was accepted by the House of Delegates. Such a committee has been formed and has had its first meeting under the chairmanship of President-elect F. E. Wrightman.

Attendance and interest in the functions of our state Society has been on the wane for a number of years. This is not peculiar to our organization or our area. This is a common problem among medical groups. Many explanations are offered, none of which are thoroughly convincing. It is the conviction of this writer that given the proper emphasis and format the Kansas Medical Society's annual meeting can be an excellent source of postgraduate education and a forum for the discussion of mutual problems. The friendliness and fellowship among the doctors of Kansas has long made me proud to say I am a member of this body. Our meeting is important in keeping it that way.

For this, and other reasons, the Format Committee was conceived. One member from each county in which the state meeting is held and two members at large, under the chairmanship of the President-elect, constitute this committee. This new body is in no way to supplant or negate the local society committee on arrangements. Its function is to conceive an overall plan to increase attendance and interest at our annual meetings.

May I make a plea to each one of you? Dr. Wrightman and his group would welcome any suggestions you may have. Please communicate to him or the executive office your ideas. We would be most grateful for them.

Fraternally yours,

Glenn R Peters M.D

EDITORIAL COMMENT

The Hall of Health

Under the direction of L. R. Pyle, M.D., of Topeka, the Kansas Medical Society presented a Hall of Health to which the public was invited. It was held at the Mid America Fair Grounds in Topeka and extended from mid April to the close of the Centennial Annual Session on May 6.

Some thirty-three separate exhibits were presented on a variety of health subjects, by many different agencies. The American Medical Association loaned exhibits on Birth, the Eye, and How We Breathe. There were several on Safety and Safe Driving. One illustrated the hazard of poisons commonly found in the home.

A Civil Defense exhibit presented a Geiger Counter set up to detect radioactive substances and an emergency field kitchen complete with examples of foods that could escape contamination. Several mental health exhibits presented charts, pictures and actual materials used in the treatment of mental illness.

A blood procurement exhibit illustrated through the use of a manikin the manner in which a blood bank can obtain blood. A model telephone answering service was demonstrated, *Today's Health* was distributed, nursing careers were explained, Blue Shield, the Red Cross, the National Foundation, the Allergy Foundation of America, the Tuberculosis Association and the American Foundation for Eye Care were among the agencies that presented material at the Hall of Health.

The University of Kansas School of Medicine showed the works of Arthur Hertzler, M.D., the Kansas distribution of physicians who graduated from this school and a plastic encased cross-sectioned fetus.

The Kansas Heart Association in cooperation with the University of Kansas School of Medicine demonstrated a heart-lung machine. The Sedgwick County Medical Auxiliary displayed old medical instruments. The Historical Society set up a pioneer doctor's office and a modern office with equipment loaned from the Munns Medical Supply Company and Thachers was placed nearby to contrast the old with the new.

And there were more. Many had working models viewers could use for themselves. Most presented literature for people to take. Although the public did not come in large numbers, many schools from all over the state sent bus loads of students to see the Hall of Health. For each scheduled visit a Topeka physician and a member of the Shawnee County Medical Auxiliary were present to conduct guests on a guided tour.

This also was an event scheduled as a feature of the Centennial Celebration of the Kansas Medical Society.

Dallas Whaley

The Kansas Medical Society welcomes to its staff a young graduate of Boston University's School of Public Relations & Communications. His immediate previous employment was in the field of public relations with The Menninger Foundation.

Dallas Whaley began work on May 1, 1959 and will assume the responsibilities of Managing Editor for the JOURNAL. The time not necessary in this activity will give the Society the benefit of an additional person trained in public relations.

Those who attended the Centennial Annual Session met him at the registration desk where he began his official connection with the Society. He has done an exceptional job of gathering the loose ends in the JOURNAL office occasioned by the long period this position was vacant. In a very short time that segment of Society activity will have returned to normal. It is with pleasure that the Society announces this addition to the Executive Staff. Much will be heard from Dallas Whaley in the way of new activities in the near future.

The Kansas Doctor

The medical history of Kansas has been published as one portion of the Centennial of the Kansas Medical Society. It is a narrative account, and a very good one, of the most significant events of the first one hundred years of medicine in this area.

The author, Thomas N. Bonner, Ph.D., is Professor of History at Omaha University. Besides other writings, this is at least his second book on the history of medicine, the first being an account of medicine in Chicago. Not only does this book contain a wealth of factual information but the reading is pleasant and exciting.

"The Kansas Doctor" is the result of cooperative effort on the part of many persons. Any attempt to name them will have omissions but certainly a few should be mentioned whose work was essential to the ultimate production of this book.

Ralph R. Melton, M.D., of Marion, planned the formula under which the research became possible. After presenting his idea to the House of Delegates it was approved something like six years ago. Shortly thereafter he was appointed chairman of the Committee on History, and work was begun.

W. M. Mills, M.D., of Topeka, became chairman of this Committee. At the time of his death the project had been almost completed. Dr. Melton again ac-

cepted the chairmanship and both of these members gave literally hundreds of hours of their time to make the book possible.

Research was done by the Department of History at the University of Kansas under the most cooperative direction of Professor G. L. Anderson, chairman of the Department. Many graduate and upper class students participated in the reading of newspapers, at least two were thoroughly examined page by page for one hundred years. Others were examined for shorter periods. In addition to this, official proceedings, THE JOURNAL and other publications of this and other state medical societies, county societies and related health organizations were studied. All this mountain of material was made available to Dr. Bonner.

The History Committee met often with the University of Kansas committee at which times Franklin D. Murphy, M.D., Chancellor, was always present and to which meetings he regularly contributed most worthwhile and practical suggestions. Clarke W. Wescoe, M.D., Dean of the School of Medicine, was likewise most helpful as were many other faculty members in the School of Medicine and at the University. Special mention should be made of John H. Nelson, Ph.D., Dean of the Graduate School, and Clyde Hyder, Ph.D., Editor of the University of Kansas Press for the great help they gave.

Mr. Nyle Miller of the State Historical Society, the Menninger Foundation including many persons, the Kansas State Board of Health, the Healing Arts Board and many others should be mentioned without whose assistance the book would never have been prepared. The Kansas Medical Society and its Committee on History is much indebted to them all.

As the manuscript progressed, the Committee on History read it carefully chapter by chapter. The author was most kind in his acceptance of an occasional suggestion and all who saw the manuscript became increasingly enthusiastic as they read it.

In 1958 the House of Delegates voted this book should be in the hands of each member of the Society and raised the dues to pay for the purchase of a copy. Non dues paying members may order theirs for $5.00 from the Society office and additional copies are available for purchase for gifts. It is recommended that county societies buy copies for schools and for libraries.

This is a noteworthy book. It not only warrants careful reading but is of sufficient interest that, once started, the author will hold his reader's attention. It represents a landmark in the achievements of the Kansas Medical Society and is one of many projects to celebrate the Centennial.

THE KANSAS PRESS LOOKS AT MEDICINE

Editor's Note. In this section the JOURNAL *reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.*

100 YEARS OF MEDICINE

The Kansas Medical Society observed its centennial convention in Topeka appropriately and with due notice of the fact that Kansas is aging. Not many state organizations are yet 100 years old. The doctors not only came to the frontier early but got together as a body immediately upon arrival. Most professional men are "joiners," and in pioneer times the need for togetherness possibly was more urgent than now, when practitioners have access to a great volume of printed matter concerning medicine.

The convention was accented by two contrasting notes. One was the presence of and the honoring of Milburn Stone, Kansas film actor who has made the character of Doc Adams well known to American television viewers. In recognition of Doc Adams' weekly 30-minute stint as frontier physician and surgeon (on the screen) the medical association made Stone an honorary member. He loved it; said it was the greatest thrill that ever came to him.

That was the note from the past. There was a note of prophecy, too, a portent of what may happen to the medical profession if certain things aren't done. Socialization of medicine is a possibility, said James Stewart of New York, addressing the centennial convention. The vice president of the National Blue Cross Association declared that the people of this country want voluntary health programs and they are going to step up and ask for a federal tax-supported program if and when they find present programs are not meeting health requirements. As reported in the Topeka press Stewart pulled no punches in discussing the threat of socialized medicine.

This was hardly a happy note on which to end a convention of doctors. But doctors are not unmindful of the facts of life or the changes affecting America in the past 100 years.—*The Kansas City Kansan, May 8, 1959.*

In 1957, over 370 persons were killed while crossing at an intersection with signal.

Maternal Mortality Report

The patient was a 24 year old white primigravida who died in a general hospital in a small city, the cause of death being given as cardiac decompensation due to severe circulatory shock from hemorrhage and cesarean section. Delivery of a male infant weighing eight pounds, 13 ounces by section preceded death by four days.

Prenatal care was adequate and included x-rays in the eighth month which indicated a reduced antero-posterior diameter of the midpelvis. A trace of albuminuria was noted on two occasions in the week preceding delivery.

Ten days after the due date, the patient experienced spontaneous rupture of the membranes and was hospitalized. The attending physician departed on his vacation that day, the colleague taking over the case not being informed of the pelvic narrowing. Nine hours after rupture of the membranes, the latter found the patient in moderate labor with three cm. dilatation, fetal heart 140, the head unengaged, and the baby large but presumed deliverable. Labor was desultory for some 54 hours when a consultant was called in. Vaginal examination disclosed five to six cm. dilatation. Intravenous Pitocin was administered for about one hour by which time 0.08 cc. had been given, contractions were almost continuous and the cervix was completely dilated. Delivery was attempted with episiotomy and the use of three types of forceps without success. During this effort, one half cc. of pus was seen coming from the rectum.

The patient was then delivered by cesarean section. During the closure, vaginal bleeding of some 1,500 cc. was noted and, on reentry, a cervical laceration was discovered and repaired. The patient went into shock during this time but was given 1,000 cc. of blood and was returned to her bed at the termination of the procedure in fairly satisfactory condition. She soon began to run a febrile course and deteriorated progressively, dying 96 hours postoperative in a state of continuous convulsions, despite antibiotics, further blood replacement, gastric suction and efforts to combat rising blood pressure and renal failure.

Committee Opinion: The following deficiencies were noted by the committee:

1. Insufficient examination after rupture of the membranes with an unengaged head to establish the severity of the disproportion.
2. Inadequate antibiotic therapy in the face of early rupture of the membranes and a long manipulative labor.
3. The use of intravenous Pitocin in the presence of a cephalo-pelvic disproportion.
4. Attempted forceps delivery in the absence of proper conditions.
5. Inadequate blood replacement and attention to electrolyte balance and proper hydration.
6. Inadequate postoperative management, e.g., premature discontinuance of gastric suction, solid food prescribed despite ileus and anuria.
7. Excessive dependence upon observations and reports of inadequately trained personnel. (Registered nurses were reportedly "very scarce" in the hospital.)

The death was classified as preventable, the inital error being misjudgment of the degree of cephalo-pelvic disproportion (the opinion of the attending physician which the committee affirmed).

Classification: Obstetric death, preventable.

One of a series of case reports prepared by the Committee on Maternal Welfare to illustrate the type of study made in each instance of maternal death in Kansas.

Tumor Conference

Reticulum Cell Sarcoma of the Stomach

Edited by THOMAS J. FRITZLEN, M.D.

Dr. Friesen (Moderator): This patient had an unusual tumor of the gastrointestinal tract. It has specific prognostic and therapeutic features which warrant consideration of its diagnosis and management.

Mr. Betz (Medical Student): This 64 year old white male farmer was admitted to the University of Kansas Medical Center for the first time on February 12, 1959 with a chief complaint of upper abdominal pain for 4 months. The pain was in the epigastrium and across both upper quadrants and immediately followed the ingestion of any sort of food. It did not radiate and was steady in character. The amount and duration of the pain had increased steadily and it sometimes occurred at night without relation to ingestion of food. He had a 20 pound weight loss. He denied loss of appetite but had markedly restricted his food intake because the pain seemed to be produced by eating. He also noted moderate constipation. An x-ray examination 5 weeks before admission is reported to have shown a gastric ulcer. He had been placed on an ulcer regimen without relief of his symptoms. Re-examination by x-ray two weeks prior to admission showed the ulcer to be unchanged. He had not noted diarrhea, melena, hematemesis, dysphagia, nausea or vomiting. Review of symptoms revealed no significant complaints. He denied fever, chills or jaundice.

Dr. Friesen: Were any particular forms of food more aggravating? Could he do anything to relieve the pain?

Mr. Betz: He felt that cold food often aggravated the pain and he stated that the more he ate the worse he felt. Eating slowly seemed to cause less discomfort.

Dr. Friesen: What were the physical findings?

Mr. Betz: He was a well developed, thin, white male who weighed 135 pounds and was six feet tall. The vital signs were within normal limts. The only positive physicial findings were evidence of recent weight loss and moderate tenderness across the upper abdomen.

Dr. Friesen: What are the significant laboratory studies?

Mr. Betz: Blood counts, urinalysis and electrolyte studies were within normal limts. Liver function studies were within normal limits. An electrocardiogram was interpreted as normal. The serology was nonreactive. The blood urea nitrogen was 22.5 ml. per cent. Gastric analysis revealed no free acid at any time and 12 units of total acid in the fasting specimen and 20 units in the 1 hour specimen. The sedimentation rate was slightly elevated to 12 ml. per hour.

Dr. Friesen: May we have the x-ray findings?

Dr. Tice: X-rays of the chest were essentially normal. With a barium meal the esophagus was normal. The stomach showed a constricted area in the mid-portion of the fundus which persisted during fluoroscopy. The lower portion of the stomach and the duodenum

Figure 1. Arrows indicate area of superficial ulceration of the gastric mucosa along the lesser curvature.

Cancer teaching activities at the University of Kansas Medical Center are aided by grants from the National Cancer Institute, U. S. Public Health Service, and the Kansas Division of the American Cancer Society. Dr. Fritzlen is a Trainee of the National Cancer Institute.

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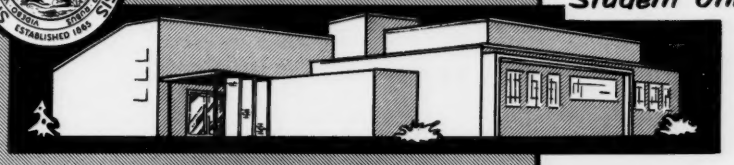

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Also important is finding the financing you may need for its construction. Because of the importance of experience and reliability in financing, we suggest you consult the Mortgage Loan Department of Farmers & Bankers Life. During the past twenty years, numerous doctors throughout the state have obtained first mortgage loans from us for construction of their new clinic and medical practice buildings. We shall welcome the opportunity to take part in your planning also.

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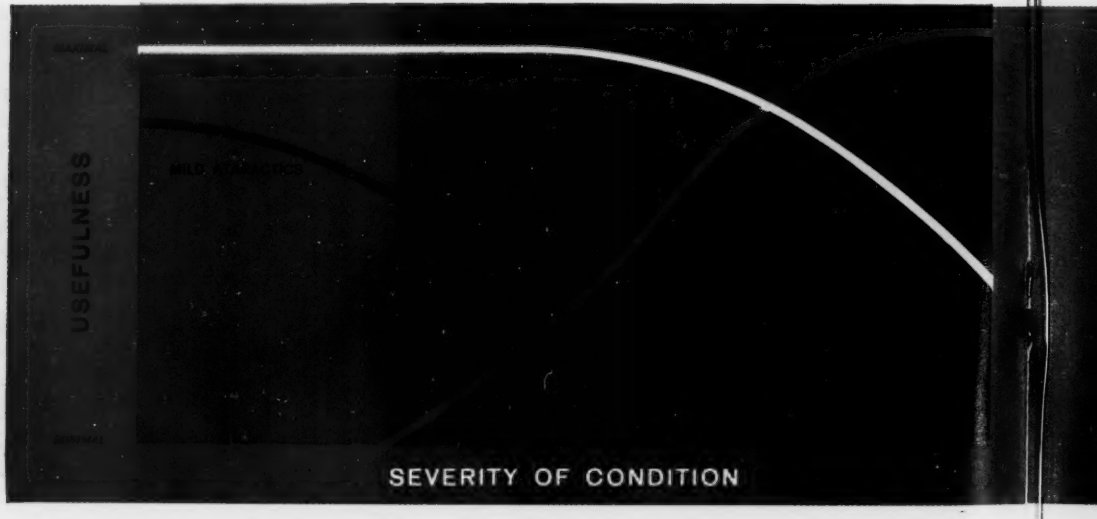

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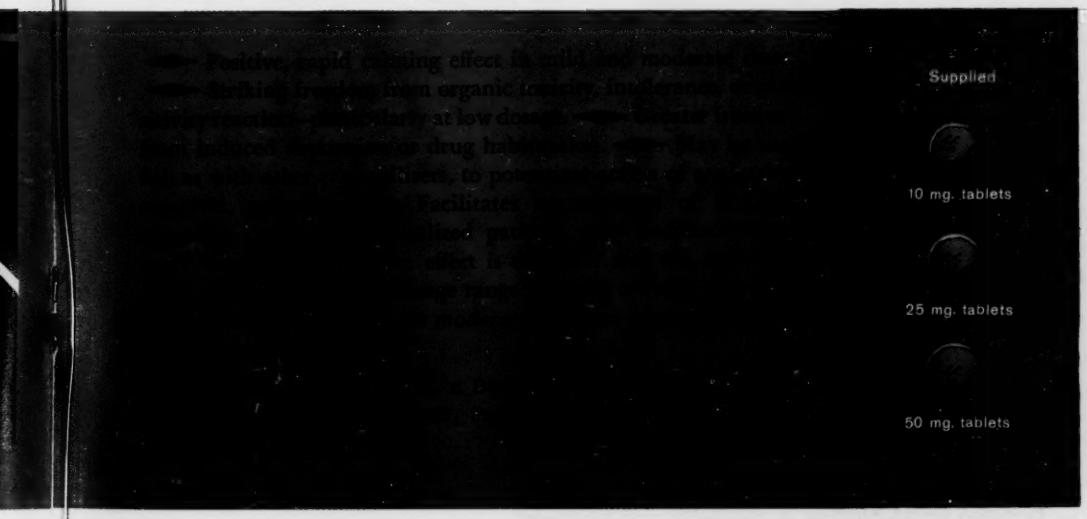

IN ALCOHOLISM

A "SECOND BEST" ARMY FAILS TOTALLY

And against the main army of alcoholics—those whose drinking is a symptom of underlying pathology—less than a complete campaign is futile.

To shorten time, frustration and expense (simple efficient management) requires initial institutional care of these individuals:

1. To stop their ingestion of alcohol;
2. To detoxify the system;
3. To restore the fluid electrolyte balance;
4. To detect and correct nutritional anomalies peculiar to the individual alcoholic;
5. To overcome or reduce bodily ailments that contribute to the abnormal state and, finally
6. **To develop a program that will aid the particular individual in abstaining from all alcoholic beverages until death.**

THE RALPH CLINIC

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Telephone VI. 2-3622

The Ralph Clinic (in its 62nd year) is in the advance of every phase of the treatment of alcoholism. It invites consultation with you concerning your patients with problems of excessive drinking.

(A portfolio about the Problem of Alcoholism is available upon request).

appeared normal. The rugal folds were thickened along the lesser curvature in the mid-portion of the stomach with multiple superficial ulcerations (Fig. 1). This was interpreted as an area of probably neoplastic infiltration, possibly lymphoma. Inflammatory reaction to a benign ulcer was not entirely excluded.

Dr. Friesen: What was done for the patient?

Mr. Betz: Four days after admission, when diagnostic studies had been completed, he was taken to the operating room. At surgical exploration there was found firm induration of the lesser curvature of the stomach extending toward the greater curvature and proximally almost to the gastroesophageal junction. The lesion appeared neoplastic. No evidence of metastases outside of the stomach was seen. Accordingly, a total gastrectomy was carried out, including removal of the distal few centimeters of the esophagus and en bloc removal of the spleen and the greater omentum. Gastrointestinal continuity was restored by an esophageojejunostomy.

Dr. Friesen: Was this lesion of the lesser curvature diffuse rather than a discrete tumor mass?

Dr. Rieger: Yes, the tumor infiltration was diffuse. The serosa was only slightly thickened and white as compared with uninvolved areas. The surgical diagnosis at the time of operation was of carcinoma without evidence of metastasis.

Dr. Friesen: May we have the pathologist's report?

Dr. Mantz: The gross specimen consisted of the stomach with an attached 1 centimeter segment of distal esophagus and the first portion of the duodenum. The external appearance of the stomach was as described. In the opened specimen there was a large, poorly limited area of thickening along the lesser curvature with flattening of the rugae and superficial mucosal ulceration. There were moderately enlarged lymph nodes along the greater curvature of the stomach. Examination of the gross specimen suggested one of two diagnoses, first, a superficial and diffusely infiltrating carcinoma of the linitis plastica type, and second, a lymphoma diffusely involving the stomach wall.

Histologic examination revealed a tumor of a uniform cell type which appeared to arise in the submucosa. It extensively infiltrated the stomach wall and partly destroyed the overlying mucosal surface (Fig. 2). The tumor cells were of extremely uniform appearance, and had large, round nuclei and scanty cytoplasm. There was no acinar or organoid pattern. The tumor extended in some places into the subserosa. Tumor was present near the line of excision in the esophagus. The histologic appearance was that of a reticulum cell sarcoma.

Three of 31 lymph nodes examined showed areas characteristic of reticulum cell sarcoma. These nodes were one each from the subserosa, the lesser omentum along the lesser curvature, and the greater omentum. No changes of reticulum cell sarcoma were seen in the spleen.

Figure 2. Tumor in the submucosa and adjacent structures with mucosal destruction and ulceration.

A review of the world's literature indicates that between five and ten per cent of malignancies of the stomach are sarcomas.[1] Among these, leiomyosarcomas and lymphomas are most common. All the various types of lymphomas occur and among them reticulum cell sarcoma is relatively frequent. Some studies indicate that there is a relatively better prognosis in patients who have lymphosarcoma and receive adequate surgery followed by irradiation than in patients who have a carcinoma of the stomach. However, a study from this institution tends in part to refute this.[2] There are reports in the literature of survivors in good health for periods of ten to twenty years and I personally am following two patients with a tumor of this histologic type who are alive twelve and eight years respectively after surgery and x-ray therapy.

Dr. Friesen: What is the role of frozen section technique in assisting with the diagnosis of this lesion?

Dr. Mantz: Frozen section studies can rule out the presence of epithelial neoplasms. However, the distinction between chronic inflammation and lymphoma by histologic examination of frozen sections sometimes is not possible. The gross appearance of the lesion in situ can often settle the issue, and it is

in such cases that the pathologist should be called to the operating room.

Dr. Friesen: On the basis of the pathologic examination, Dr. Mantz, what would you say about the prognosis?

Dr. Mantz: I would be conservative because of the nature of the lesion and also because there is tumor near the line of resection and in three lymph nodes. The course of such a tumor is unpredictable, but there is a reasonable chance that with follow-up radiation therapy this man may have several or many years of useful and comfortable life, I recall a case in which a man, much younger than the present patient, had a gastrectomy because of a gastric ulcer, and a well differentiated lymphosarcoma was overlooked at the time of surgical pathological examination of the resected stomach. The patient received no follow-up treatment of any kind, remained symptom-free for four years, and then he returned to the hospital with a diagnosis of acute lymphatic leukemia. Review of the original surgical specimen then, by an examiner who did not know the previous diagnosis or history, revealed the well differentiated lymphosarcoma.

Dr. Friesen: Will this patient receive radiation therapy?

Dr. Rieger: The patient is still in the immediate postoperative period and the question of postoperative irradiation has not yet been discussed.

Dr. Friesen: Dr. Tice, what are the general principles of radiation therapy for such a patient?

Dr. Tice: We would probably give a depth dose of between 2,500 and 3,000 roentgens to the region of the stomach bed. This is the range of radiosensitivity of the lymphomas and our therapy would be directed at control of any tumor that might have remained after surgery.

Dr. Friesen: Dr. Mantz, do you think that there is sufficient induration and tumor infiltration in the stomach wall to explain his pain on eating on the basis of non-distensibility of the stomach?

Dr. Mantz: I think that is an excellent possibility.

Dr. Friesen: This case has been one of an older man with upper abdominal pain produced by eating and with x-ray evidence suggestive of a neoplasm diffusely infiltrating the stomach wall. Further, there is a better prognosis for patients with a sarcoma, particularly a lymphosarcoma, of the stomach, as compared with that for patients with the much more common epithelial gastric carcinoma.

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THE MONTH IN WASHINGTON

Editor's Note. The following summary of Washington news was prepared by the Washington office of the A.M.A. for distribution to state and regional medical journals.

Congress won the first round in a battle over medical research funds.

The House voted $344,279,000 for the National Institute of Health, $50 million more than the Administration asked for in the fiscal 1960 bedget. The move to increase medical research funds also had strong support in the Senate.

However, the Health, Education and Welfare Department and the Budget Bureau will have the final say on how much of the appropriated funds are spent during the 1960 fiscal year when the Administration is striving to balance the budget.

Arthur S. Flemming, Secretary of Health, Education and Welfare, vigorously denied a charge of the Democratic-controlled House Appropriations Committee that the Administration had "gone so far as to set back the medical research program . . . in a desperate attempt to present, on paper, a balanced budget." Flemming said the committee was trying to give a "clearly misleading" impression. He also said it was hard to see how the Administration's $294 million program could be regarded as a backward step.

Flemming pointed out that the Administration request was for the same amount voted by Congress last year. And, he added, some of last year's appropriation will not be spent this fiscal year.

At the same time, U. S. Surgeon General Leroy E. Burney testified before a Senate Appropriations Subcommittee that there was a shortage of trained personnel in all fields related to human health, including medical research.

More Doctors. Rep. Francis E. Dorn (R., N. Y.) again has introduced a bill that would provide for a special commission making a study of the supply of physicians. In a letter put in the *Congressional Record,* Dr. F. J. L. Blasingame, Executive Vice President of the American Medical Association, envisaged an adequate supply on a long-range basis. He said: "Over the long haul, the increase in medical students is much greater proportionately than is the increase in the population. . . . The future, I believe, looks bright."

Russia A-Tests Dirty? U. S. scientists have blamed Russia for most of the radioactive fall-out thrust into the atmosphere in the last two years. But testimony

before a Joint Congressional Committee on Atomic Energy estimated that over-all the United States and Great Britain had created nearly three times as much radioactive debris by testing nuclear weapons as the Soviet Union had.

Russian tests were described as "extremely dirty" as to radioactive debris. However, the Russians have not exploded as many test weapons and devices as the Western Powers have.

The scientists differed on the degree of danger to humans posed by the radioactive fall-out. John A. McCone, Chairman of the Atomic Energy Commission, said that up to now the fall-out hazard has been "very small" and not serious when compared with common hazards, including natural radiation. But he warned against a "very serious hazard" in the future if nuclear tests are not restricted by international agreement.

Care in PRN Urged. A Food and Drug Administration official has urged that physicians use care and judgment in writing PRN and similar prescriptions for sleeping pills and amphetamines. Nevis Cook of the agency's enforcement bureau said some pharmacists have been selling the drugs too freely on such prescriptions. The FDA planned to take court action when a glaring abuse presented a strong case. The issue is whether a pharmacist improperly practices medicine by indiscriminately refilling such prescriptions.

Need More Officers

There are approximately 22,000 state police officers in the nation. Of these, only 60 per cent are available at any given time because of sick leave, vacations, court assignments and other absences. Dividing these into three eight-hour shifts. we have only 2,300 patrolling our 60,000 miles of road at one time. Thus each officer has an average of 260 miles to patrol.

Scots Don't Trust Radar

The police failed to secure a conviction in the first speed limit charge brought in Scotland on the evidence of a radar speed meter. In dismissing the case the presiding sheriff described the radar as a rather unreliable machine.

Familiarity Breeds Carelessness

Ohio statistics for 1958 show that most of the traffic accidents happened to motorists who were familiar with the roads on which they were driving. All but 5 per cent of the drivers involved in accidents were from Ohio—79 per cent were residents of the counties in which the accidents occurred.

DEATH NOTICES

George Franklin Pendleton, M.D.

Dr. George Franklin Pendleton, 75, an obstetrician and gynecologist from Kansas City, passed away in April. Dr. Pendleton had been president of the staff of the St. Mary's and Trinity Lutheran hospitals. He was also chairman of the obstetrics department at Trinity Lutheran, in Kansas City.

Donald Macrae, M.D.

Dr. Donald Macrae, 52, passed away in April. Dr. Macrae was the first coroner of Shawnee County and still held his office at the time of his death. For a number of years he was medical supervisor for the Du Pont ordinance plants. He came to Topeka in 1946, from Claremore, Oklahoma, where he was president of the county medical society.

L. A. Donnell, M.D.

Dr. L. A. Donnell, 53, a well-known Wichita physician and surgeon suffered a fatal heart attack in April. The former Wichita City Commissioner and Mayor was driving his car at the time of his attack. He was a native of Kinsley, Kansas and was born April 23, 1906. His father was also a physician.

Dr. Donnell attended Fairmont College in Wichita and finished college at Friends University. He earned his medical degree from the University of Louisville in Kentucky.

Among his survivors are his wife, Mrs. Donnell, and a son Dr. James Donnell of Tacoma, Washington.

Charles Davis McKeown, M.D.

Dr. Charles Davis McKeown, 67, medical director of the Farmers and Bankers Life Insurance Company passed away in April in a Wichita hospital. Dr. McKeown came to Wichita 33 years ago from Hutchinson. He was one of the first Wichita doctors to specialize in the field of Anesthesia. In 1951, he assumed his post as the insurance company's Medical Director. Dr. McKeown graduated from Loyola University in Chicago in 1918. He was survived by his wife and son Willis A. McKeown.

Economics in Medicine

Personal Living Expense

FLOYD F. WEHRENBERG, ***Kansas City, Missouri***

Undoubtedly, the most controllable expense you have is for personal living, those expenditures for rent, food, clothing, and the like. We do not refer to any deductible items, any assets purchased, nor any payment on liabilities.

In previous articles we have discussed the items leading to your "Net Taxable Income." However it is equally important to your future plans that you give careful attention to what you do with your money from that point. Far too many doctors who realize a nice profit from their profession find at the end of the year that they have very little "Net Gain." You want to put your money to work for you and unless you control the spending of that money, you will have little left for savings and earning power.

That personal living expenses are largely under your control is proved by the vast differences in amounts spent by various families in similar circumstances. Some can live on $400 per month and feel well provided for; others seem to require twice that or more.

Averages

A recent survey by Professional Management Midwest of personal expenditures by Midwestern doctors revealed the following averages:

Annual Income	*Annual Expense*	*Monthly Expense*
$ 5,000 to $10,000	$ 5,150	$ 430
10,000 to 15,000	6,600	550
15,000 to 20,000	8,300	690
20,000 to 25,000	9,100	760
25,000 to 30,000	10,450	870
30,000 to 35,000	11,900	980
35,000 to 40,000	12,550	1,050

Note the proportionate rise in average living costs with the rise in income. Obviously there is a difference of opinion as to what is necessary to comfortable personal living. The factors which play a part in your answer are these: (1) the size of your family, (2) your earning power, (3) the educational needs of your children, (4) your wife's requirements after the children are self-sufficient, and (5) your own plans for retirement.

The doctor with a large family will naturally have a larger outlay for the present and will also have to make better provisions for the future. Prudent outlay of money in his situation is essential.

If you find that your apparent current "needs" for personal living will not permit you to prepare for the future, a review of those "needs" is in order. Many doctors handle it this way. The doctor and his wife sit down with their business consultant and make out a budget for themselves. They consider fixed expenses and future aims and work out a practical plan to meet their requirements.

Here are a few suggestions for preparing a workable budget. If you have an established practice, average your earnings over the past few years. Then, based upon your net taxable income, estimate your current taxes. Next, figure your insurance needs for the coming year, and finally, decide how much you would like to save in the next twelve months. Subtract these three items from your estimated taxable income and you will have the amount to which you must limit yourself for your personal living. For example:

Estimated Taxable Income	$20,000
Less: Federal Tax	$ 5,000
(Less) Life Insurance	$ 2,300
Desired Gain (Savings)	$ 4,300
Personal Living Allowance	$ 8,400

Remember, your figures must be practical and they must be followed or a budget will be of no value to you.

Many doctors delegate to their wives the handling of all household expenditures and clothing. They restrict themselves to their "allowance" each month in order that they may accomplish their common aims. In this way a maximum amount can be saved for investments and a happy and secure financial future can be assured.

Mr. Wehrenberg is Missouri-Kansas manager, Professional Management Midwest, 4010 Washington Street, Kansas City, Missouri.

Thruway Beats Own Record

The New York State Thruway established a record low fatality rate of 0.88 deaths per 100,000,000 vehicle miles driven in 1958. The rate in 1957 was 1.94. There were only 17 deaths last year as motor vehicles traveled a record 1,942,000,000 miles, compared to 33 fatalities in 1957 with 1,700,545,210 miles traveled. There were no multiple-death accidents on the Thruway in 1958.

Civil War Medicine

A Personal Account from the Diary of Charles F. Little, M.D.

LAWRENCE L. EVANS, M.D., ***Kansas City, Kansas***

May 12, 1863

"The camps of the wounded—O heavens, what scene is this?—is this indeed humanity—these butchers' shambles? There they lie in an open space in the woods, from 200 to 300 poor fellows—the groans and screams —the odor of blood mixed with the fresh scent of the night, the grass, the trees—that slaughterhouse! While over all the clear, large moon comes out at times softly, quietly shining."[16]

—From a diary of Walt Whitman.

The same year that Walt Whitman wrote those words from Fredericksburg, a young medical officer just out of school was also writing daily entries in a diary. Dr. Charles Fredrick Little, Assistant Surgeon in the 19th Illinois Infantry, kept daily notes in a pocket-size, leather-bound book during his enlistment in the Union Army. Later when Dr. Little moved to Kansas, he brought the diary with him. The diary, now in the possession of Dr. Little's family, offers a personal account of experiences in the War Between the States. By reading some of his notations, it is possible to gain knowledge of life in the camps of the wounded nearly a century ago.

Charles Fredrick Little was born in Milford, New Hampshire, January 27, 1836. His father, Caleb Jewett Tenney Little, was a New Hampshire merchant and was descended from a George Little who came to Newbury, Massachusetts in 1640 from Unicorn Street, near London Bridge, England. When Charles Little was three years old, his parents moved to Kewanee, Illinois, a small town west of Chicago.

Educated in the public and high schools of Kewanee, he studied medicine under a preceptor, Dr. T. D. Fitch, for about a year in 1861. Then entering Rush Medical College, Dr. Little studied under Dr. Daniel Brainard, surgeon and founder of the school.

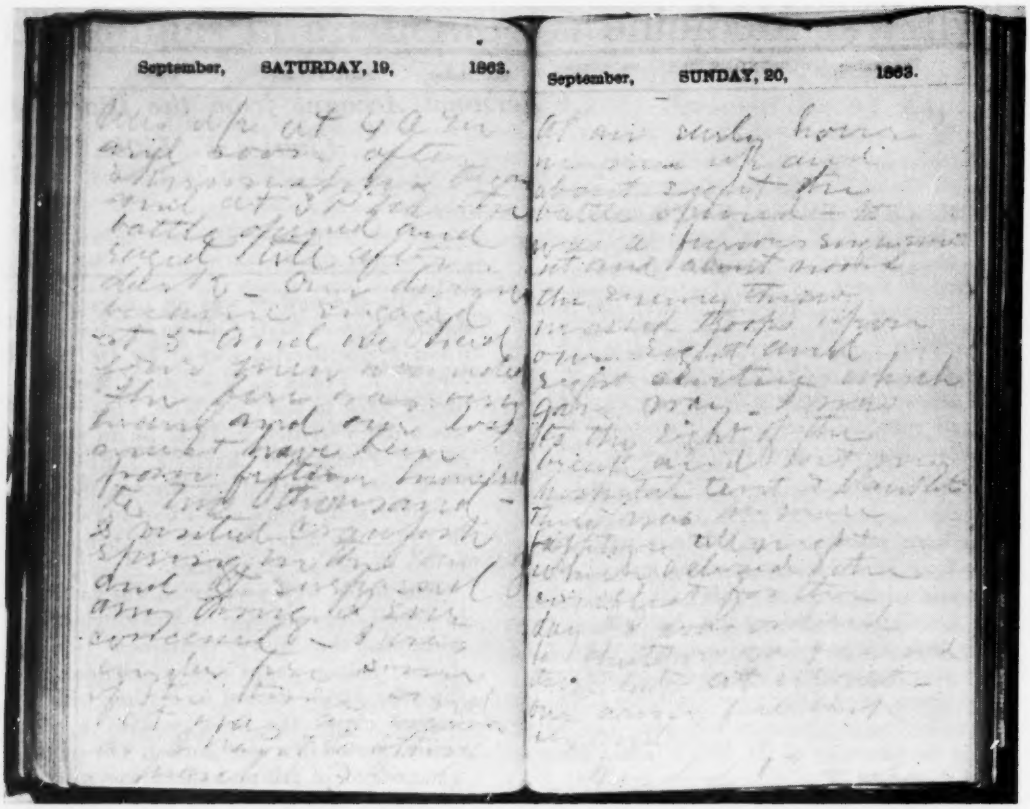
Rush Medical College was located in Chicago and received its charter from the State of Illinois in 1837. During the time Dr. Little attended the school, two periods of study were offered. The first, or Spring semester, was 16 weeks of two lectures daily. The second period offered in the Fall, consisted of lectures and clinical work at the City Hospital, City Dispen-

While the author was an undergraduate at Kansas State College he chanced upon a manuscript owned by Dr. and Mrs. E. R. Frank of Manhattan, Kansas, dating back to the Civil War. This work was a diary written in 1863 by an uncle of Mrs. Frank, Dr. Charles F. Little. Dr. Little was a Manhattan, Kansas doctor for over sixty years and upon his death in 1932, the diary became the property of his family in Manhattan.

The book, well preserved, was written in pencil and consisted of 365 entries. In addition, the diary contained twelve double ledger pages and a calendar of the year 1863. Bound in leather with a leather clasp, the book was of a size easily carried in a coat pocket. The pages were edged in gilt and there was a loop of leather attached to the back cover in order to carry a pencil. Though somewhat dimmed by time, the entries were legible and reading the small Spencerian script revealed much of the personality of the young doctor and some of his experiences while he served in the Union Army during the middle of the War Between the States.

In writing this paper, it was the author's desire to present this diary as an example of a manuscript of historic interest to those interested in the period of the Civil War and also to those interested in medicine in the nineteenth century. In doing so, he would like to acknowledge the invaluable assistance of Dr. and Mrs. Frank and their son, Dr. Robert Frank. In addition, sources of information were supplied by Mrs. Russell Dary of Manhattan, Kansas. Gratitude is expressed to Dr. George Hoover for aid in supplying the photographs.

This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Evans is now serving his internship at the Bethany Hospital, Kansas City, Kansas.



Photograph of a page from the diary of Dr. Little.

sary and Chicago Charitable Eye and Ear Infirmary. During the 1860's there were 12 professors teaching in the Fall semester and about as many more teaching the "Preparatory School" in the Spring. Tuition fees were $70 per year.[7]

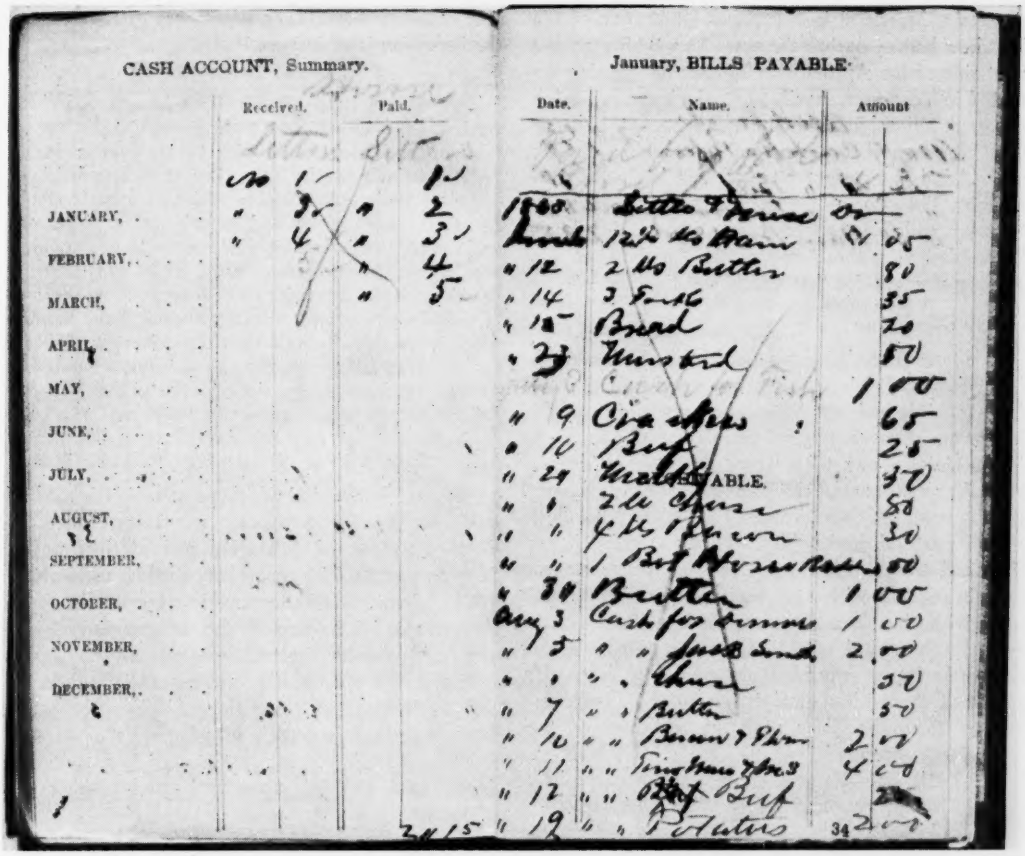
In January 1863, Charles Fredrick Little graduated from Rush. The week before graduation the students were examined, and on the *21st of January,* in Dr. Little's own words: "In the eve. came the long expected moment when I received a diploma. 58 received the degree of M.D. The diplomas were delivered by Prof. Brainard and followed by a few appropriate remarks. Prof. Rea delivered the valedictory address which was applauded by all. Thus after three years and overly hard work, I have earned the degree of M.D."

On the 22nd of January, 1863, Dr. Little went before the Army board and passed the examination for Assistant Surgeon in the Union Army. Most of the Northern medical officers were commissioned by State governors rather than by the President. A few states needing medical officers gave lax examinations or gave commissions without examination. In Illinois, however, a policy of strict examinations was carried out.[1] After passing the examinations, Dr. Little returned to his home in Kewanee to await his commission.

Medical Corps

In 1861, at the onset of the war, the Medical Department was unprepared. Its Chief was Colonel Thomas Lawson, and he commanded only 113 men with an annual budget of less than $200,000. But by 1865, over 12,000 doctors had seen service. This number was made up of the regular Medical Corps, volunteers and those men commissioned by states. In addition, there were "contract" surgeons who received pay of first lieutenants but were not commissioned. With an increase in force, it was decided that new leadership was needed, so in April 1862, William A. Hammond became Surgeon General.

A young surgeon, Dr. Hammond acted with the Sanitary Commission (a reform group established May, 1861, to investigate health conditions in the Union Army) to prepare 151 general hospitals having a total of 55,000 beds. In addition, field hospitals were set up and regiments supplied with medical equipment, drugs, and a staff. Also, an ambulance corps was organized.



CASH ACCOUNT, Summary.

	Received.	Paid.
JANUARY,		
FEBRUARY,		
MARCH,		
APRIL,		
MAY,		
JUNE,		
JULY,		
AUGUST,		
SEPTEMBER,		
OCTOBER,		
NOVEMBER,		
DECEMBER,		

January, BILLS PAYABLE.

Date.	Name.	Amount
1860	Little & Brine	
	12½ lb Ham	1 25
" 12	2 lb Butter	80
" 14	3 Eggs	35
" 15	Bread	20
" 23	Mustard	50
		1 00
" 9	Cheese	65
" 10	Beef	25
" 29	Mutton	50
" 1	2 lb Cheese	80
" "	4 lb Brown	30
" "	1 Bot Worcestershire	50
" 30	Butter	1 00
Aug 3	Cash for dinner	1 00
" 5	" " Jas Smith	2 00
" "	" Cheese	50
" 7	" " Butter	50
" 10	" " Brown & Ehrman	2 00
" 11	" " Tinsmith & Co	4 00
" 12	" " Beef	25
" 19	" " Potatoes	34 2 00

Photograph of ledger page from the diary of Dr. Little. The money to pay for the above items came out of his pay which was about $110 a month.

Dr. Little was assigned to duty with the 19th Illinois Infantry stationed in Tennessee. Under the command of General Rosencrans, this regiment was part of the Army of the Cumberland. Before joining his regiment, however, Dr. Little went to Springfield to receive his commission. On *February 15, 1863,* while awaiting the arrival of papers, Dr. Little described President Lincoln's house in Springfield. "Saw Lincoln's residence. It is a two-story home with a small yard and altogether about as unpretentious as is its owner."

Commissioned

Tuesday the 17th he wrote, "Received my commission and other papers and am ready for a start in the morning. Now for the try of war." Leaving Springfield the 18th of February, Dr. Little traveled by rail to Nashville and arrived there at 6 p.m. on Friday the 20th. "Nashville is a beautiful city," he wrote, "but shows the effect of secession. It is very strong and if the Rebs try to take it they will be sorry."

After visiting several army hospitals at Nashville, Dr. Little took the train for Murfreesboro, Tennessee, a town 40 miles southeast of Nashville. Near Murfreesboro, the 19th regiment was camped and it was here, February 26, 1863, that Dr. Little started army life. He wrote, "Spent the day in camp and found it much better than I had expected. Although the diet is common, yet it is such that a man ought to live."

At this time, the Civil War had been in progress nearly two years. After the surrender of Fort Sumter on April 13, 1861, to the Southern General, Beauregard, President Lincoln called on the North to organize an Army. In July, 1861, the Confederate Army proved its might by winning the Battle of Bull Run in Virginia. East of the Appalachian Mountains, the Northern General, McClellan, was defeated in 1862, by Generals Lee and "Stonewall" Jackson. In August, 1862, General Pope, another Northern commander, was defeated by the same generals at the Second Battle of Bull Run. Then General Lee crossed the Potomac and engaged Northern General McClellan at

Antietam, Maryland in September, 1862, one of the bloodiest battles during the war. Meanwhile, on the west side of the Appalachian Mountains, fighting occurred in Tennessee. April, 1862, the battle of Shiloh occurred. Shiloh, in southern Tennessee was the scene of a Northern victory. And on the seas in the same year, Admiral Farragut attacked and captured New Orleans. The close of 1862 found Northern Generals Sherman and Grant attempting to capture Vicksburg. Near Nashville, the Army of the Cumberland was gaining strength for that which was to come.[2, 3, 8]

Army Medicine

The type of medicine practiced in the Union Army is interesting. During the first six months of his service, Dr. Little had very little experience with wounds. However, illness was prevalent in camp and in 1863, in the Union Army, there were 2,696 cases of disease annually per thousand troops and 63 deaths annually per thousand. Of these diseases, the diarrhea-dysentery group predominated with 711 cases annually per thousand troops. Malaria and related diseases were next in number with 522 cases. The respiratory diseases while less in number took a large toll of man hours with a total of 261 cases. Keeping in mind that these figures depended entirely on the diagnostic ability of the medical staff, it is seen that disease resulting from the filthy sanitary conditions of the camps was common.[1]

Dr. Little was ill a good bit of the time. especially during the Spring and Summer. *March 11* he wrote, "Slept cold and at 4 a.m. spread my blanket on the ground in front of the fire and had a good nap." *Thursday 19,* "Spent a restless night and arose sick. About 9 I had a chill which was followed by fever lasting all day." The illness lasted three days, and was characterized by weakness and fever.

One week later, "Moved a camp one-half mile. Our camp was moved into an old mule yard and the ground was unfit for a camp." Three days later, "I enjoyed the pleasure of having a light shake of the ague." *"May 22.* Had an ague about noon and did not feel well all day." He recovered in five days; but from June the 6th to the 24th, Dr. Little was obliged to remain in his tent because of illness, though he did not describe his symptoms.

July 13 he continued, "Had another attack of diarrhea and was quite sick all night." This lasted three days, again *July 25* he wrote of illness, "Awoke in the morning with diarrhea and vomiting. I am weak and cannot eat anything." He remained inactive for a week, and on *Sunday August 2* the diary related, "Felt quite weak and passed the day in reading and writing letters. Have one very sick man in the hospital with dysentery."

When he was well, however, he prescribed for the others who were ill. A case report by Dr. Little in *The Medical and Surgical History of the War of the Rebellion* is of interest.[11]

Case 109

"Pvt. Myron Balch, Co. B 9th Mich. was admitted April 2, 1864 with a fever which presented distinct remissions, and was treated with 10 gr. quinine during each remission until the 10th, when he became delirious, had iliac tenderness, diarrhea and hemorrhagic stools. Stimulants were given and persulphate of iron, one grain every two hours. He died on the 16th. Post mortum exam. 24 hours after death: Brain and its membranes anaemic. Posterior three-fourths of upper lobe of right lung hepatized; left lung normal; heart normal; small white clots in both ventricles. Liver fatty; ileum for 12 inches above the ileo-caecal valve, ulcerated in patches varying from the size of a pea to that of a dollar, the largest being nearest the valve etc."

Act. Ass't. Surg. C. F. Little
Chattanooga Hospital, Tenn.

The case was typical of illness seen by the medical staff. Besides the previously mentioned treatment, diarrhea was treated with opium and laxatives. Before Surgeon General Hammond banned their use in May, 1863, calomel and tarter emetic were administered. Both mercurial in nature, the adverse effects outweighed the good. Typhoid fever was treated symptomatically with opiates, hot compresses to the abdomen and small doses of turpentine. Alcoholic beverages were prescribed frequently in collapse or prostration. But the most important treatment, i.e, proper diet, fresh fruits and vegetables and good nursing was often lacking.

Diet was poor. Consisting of hardtack (often called "worm castles" by the troops), salt beef and pork, beans, potatoes, and a meager supply of desiccated vegetables, the food was poorly cooked by the inexperienced troops. If one had money it was possible to supplement the diets from stores of the sutlers.* Prices were out of line, however, as the illustration from one of the ledger pages of Dr. Little's book shows. Scurvy was common, and this condition persisted despite unsuccessful attempts by the Sanitary Commission to improve the diet.

One of the weakest areas in the care of the wounded was in transporting the wounded to the doctors in the field hospitals. After a man was hit, he might remain on the battlefield for days before being picked up, especially at the beginning of the war. Ambulances were scarce and the men who maintained them were said to be cowardly. However, in 1864, a bill passed Congress establishing a legal ambulance corps. This bill was championed by Dr. Henry I. Bowditch, whose own son died on the field for lack of an ambulance.

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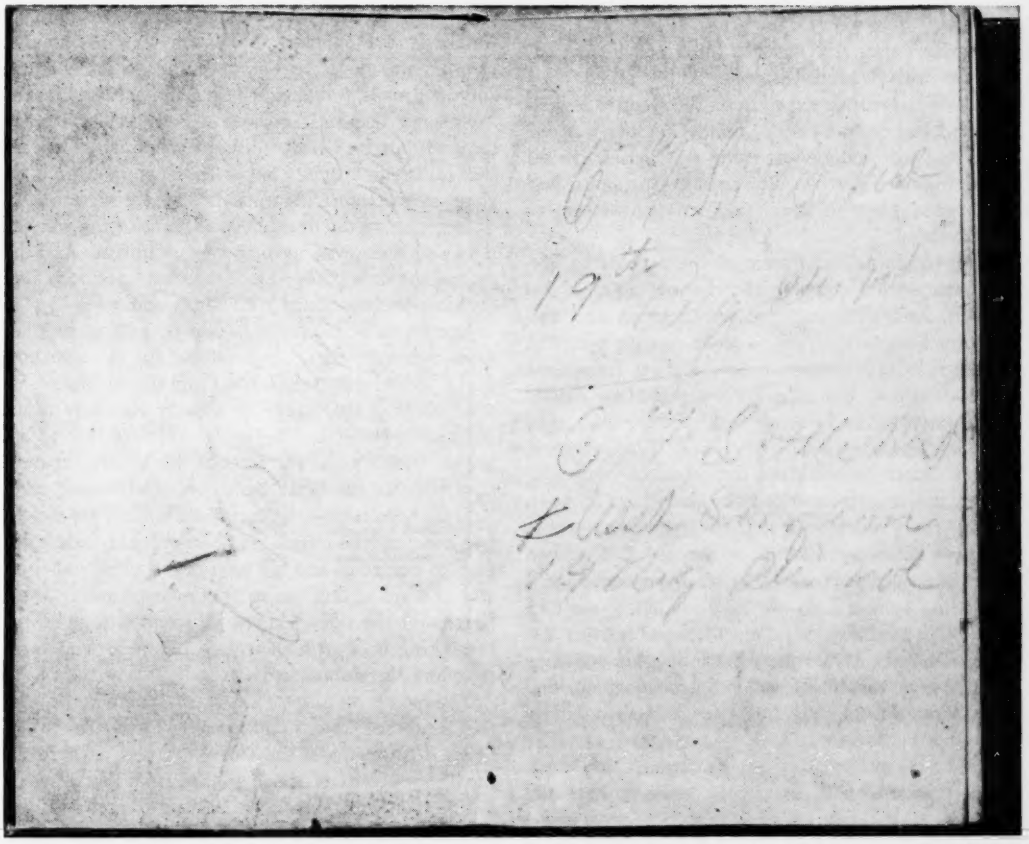
* sutler, n. A person who follows an army and sells provisions, etc., to the soldiers. (American College Dictionary, 1953.)



Photograph of inside cover of Dr. Little's diary showing his signatures before and after enlistment in the Union Army.

The hurried surgery, often done in the open air on the crudest of operating tables, was characterized by an almost deliberate lack of asepsis. The surgeons, wearing linen aprons smeared with pus and blood, would operate bare-handed with their sleeves rolled up to their elbows. Surgeons not seldom held their knives between their teeth while their hands were otherwise occupied. Following surgery, the wounds were washed in tap water and a single sponge served to bathe the wounds of an entire ward.

The chief anesthetic was chloroform, but ether was used also. More often than not, probing for bullets was done without any anesthetic and shrieks and groans would alarm those waiting their turn.

Amputations were quite common in the event of severe injury to limbs. Dr. Little mentioned amputation of the thumb, little finger, leg, and so on. All wounds were expected to become infected; in fact, it was thought to be a normal affair and part of the body's natural mechanisms to heal by suppuration. Carbolic acid was used locally, but an infection was allowed to reach serious proportions before using the disinfectant. Other antiseptics used sparingly were chlorine and charcoal, potassium permanganate, and sodium hypochlorite.

Bullets were the largest cause of battle wounds at that time. The Union had about one-quarter of a million patients suffering bullet wounds during the war. Of these, about 14 per cent died; hemorrhage and sepsis taking their toll. In cases of severe bleeding, the artery was tied with silk thread, the end of which was left hanging from the wound. Everyday, the surgeon would tug on the thread to see if a slough had occurred. If it came away and a good clot had formed, all was well. Sometimes the clot came away also, and a second hemorrhage occurred. Almost all bullet wounds were infected when the surgeon saw the patients. Unlike the modern steel jacketed bullet, the soft lead musket ball with its low velocity lost shape on impact and carried contaminators into the wound. Pyemia, tetanus, erysipelas, osteomyelitis and hospital gangrene often ensued.[1]

First Battle Experience

Four days after arriving, Dr. Little got his first experience with wounded troops. "Was called at 5 o'clock to go with an expedition. We went to Readyville and had quite a cavalry fight. Our loss was one killed and ten wounded and one prisoner. I dressed all the wounded but two. Put up at a farm house and had a good place to sleep. Our wounded I sent to Murfreesboro."

After the initial excitement of the new Army life, Dr. Little settled down to the routine duties of his position. Each regiment had one Surgeon and two Assistant Surgeons. It fell to these men to prescribe for the sick in the morning, attend dress formations in the afternoon, and take call at night. Many reports and forms had to be made out, and by May, Dr. Little was discouraged with camp life. "*Sunday May 3.* No excitement to break the monotony of camp. Although the country is indeed beautiful, yet I began to long for a move with its new scenes, new duties and new excitement. *Saturday May 9.* It has been some time since I received a letter from home and I am getting so that I do not look for letters but take what come and am satisfied. *Wednesday May 13.* There is no news from the front today. How strange it is that men, capable of such refinement, cannot find some other way to settle their troubles than killing each other by thousands."

But on *Thursday May 14,* he wrote: "My heart would rejoice to have the rebels attack us here and although I am a noncombatant, yet I cannot avoid a hatred for those I know would kill my brothers or friends. This hatred will be buried only when they shall return to a grand old flag and taking shelter behind its fold, wash away the stains of blood that are on it."

However, the rebels did not attack the regiment and except for minor skirmishing the ennui continued until June. *June 5,* Dr. Little wrote: "In the afternoon I went over to Rousseau's division and saw a man hanged for killing another man. It is indeed a frightful thing for a man to pass through. He was cool and firm all through the terrible ordeal but when they were letting down the drop (which did not fall readily) his whole frame shook violently. After falling the body struggled violently for some moments."

June 25, the 19th regiment left their old camp near Murfreesboro and moved a short distance and came upon heavy firing. *June 26,* "At 7 o'clock we moved out and went to the front. Had skirmishing all day and cannonading from 7 til dark. We camped for the night in Birch Grove, an old camp of the rebels and found many shot and shell in camp. Found 12 dead rebels yet unburied in this old camp. Saw a flag of truce going up in the afternoon. Retired in the ambulance for another night's rest."

July 4, the regiment started moving toward the Cumberland Mountains. Moving a regiment and its supplies was never an easy task and because of rain and poor roads, it took much time and energy. Dr. Little related one such episode. "Five o'clock, orders came to start for Salem—distance five miles. The rain was falling in torrents but at the appointed time we were on the move and such roads—we were till 11 o'clock coming the five miles and some of the way the mud and water was up to the horses breasts. And the men in the dark plunged into the mud knee deep. Yet the time was shortened with songs and jokes."

Due to rain and the difficulty in getting supplies (the regiment was on half rations for at least three days), they did not reach the Cumberland Mountains until about August 10. The scenery was very pleasing to Dr. Little, and he wrote: "How I love to enjoy the beauties and comforts of this climate. It must have been all the heart could wish in times of prosperity." "We're up at an early hour and by six o'clock we were on the march. The grand old mountains rose up before us and we soon began to ascend them and to wind among the rocks. Cedars, birch and oak trees cover the sides." "How I love to look upon the everlasting hills with their grey old rocks and birch trees and the stunted cedar trees."

The month of August was spent in moving toward the Tennessee River. *September 1,* Dr. Little wrote: "Passed through the town of Stevenson and crossed the Tennessee River about 2 miles from that place on a fine pontoon (bridge). I much regret that we crossed after dark and I could not see as much of the bridge as I wished to." He added in parentheses, "There are 59 pontoons in the bridge."

During the early part of September, the 19th regiment drew near to Chattanooga. After moving into Dade County, Georgia, the regiment marched along Lookout Mountain Range.[3]

Dr. Little observed a massing of Union Forces, and on *Sunday 13,* he noted: "Troops are concentrating and the indications are that a battle will be fought near this place. Had orders to be ready to move at a moment's notice with three days rations. General Thomas' corps is here and McCook is somewhere on our right. Do not know the strength of the enemy." Six days later the decisive battle of Chickamauga took place.

Chickamauga's Wounded

Dr. Little was confronted with problem of the wounded who fell during the bloody battle of Chickamauga. General Rosecrans' Army of the Cumberland (including Dr. Little's regiment), met a shattering defeat September 19 and 20 at Chickamauga, located 12 miles southeast of Chattanooga. Improper location of the hospitals and the lack of adequate supplies hampered the care of the wounded to such an extent

Map of area Dr. Little described in his diary. His route is represented by a broken line. Towns mentioned in the diary are underlined. (Commager, H. S. *The Blue and the Grey.* Bobbs-Merrill, 1950.)

that one historian termed the affair, "One of the worst medical failures of the war."[1] The corps hospital was established at Crawfish Springs, three miles south of the right wing of the Union Army. During the battle, fighting moved northward, increasing the distance from the hospital to about four miles. Congestion on the single road to the hospital, plus the exposed position of the hospital led to confusion, and in the course of the fighting, the hospital was shelled and finally captured by the Confederates. Though some wounded were hastily moved to Chattanooga, many were left on the field and were captured.

Friday September 18. "We went into camp at Crawfish Springs. There was skirmishing on our left most of the day and our move in the afternoon was in that direction. *Saturday 19.* Was up at 4 a.m. and soon after, skirmishing began and at 3 p.m. the battle opened and raged till after dark. Our division became engaged at 5 and we had four men wounded. The fire was very heavy and our loss must have been from fifteen hundred to two thousand. I visited Crawfish Springs in the morning and it surpassed anything I ever conceived. I was under fire some of the time and it was as warm as I want to stand. *Sunday September 20.* At an early hour we were up and about eight the battle opened. It was a furious engagement and about noon the enemy threw massed troops upon our right and right flank which gave way. I was to the right of the break and lost my hospital tent and blankets. There was no more fighting till night which closed the conflict for the day. I was orderd to Chattanooga and arrived there late at night. Our army fell back six miles."

In Chattanooga, things were not much better. Surgeon Moses was ordered to prepare hospitals for 3,000 men in Chattanooga the day before the battle. He found, to his dismay, supplies and shelter for only 500 wounded. During the battle the number of wounded grew to 7,500. Makeshift hospitals and commandeered homes were pressed into action and confusion reigned. To make things worse, railroad connections with Nashville were severed by the Confederates and food and supplies quickly dwindled in Chattanooga.

September 21, Dr. Little wrote: "I was busy all day dressing wounds and assisting in operations. Hospital is the place to see the horrors of war. Wounds of all kinds and in all situations. I worked from morning till sundown." The next day, he wrote: "Was engaged all day in attending to the wounded and in the evening performed the operation of resection of the head of the humerus. I dressed the wounds of about 40 men in the day."

"*September 24.* We are in a field hospital about

two miles from Chattanooga and have good water. I have lost no wounded in my ward yet, but have some very severe cases." But on *September 27*, he wrote: "The men of Ward 17 are all comfortable but one and I think he will die. I am very sorry to have it so but cannot help it."

Things looked bleak in Chattanooga in October. The Army was blockaded in the city and was awaiting General Hooker's army to open the railroad from Nashville.[3] *October 24*, "Rations are very short and many of the men are sick. Horses and mules have nothing to eat here for three days at a time. *October 25*. We learn that Hooker is drawing the rebs. We must have the railroad in one week or give up the city."

On October 28, Hooker arrived in strength and opened up the communication and supply routes after a 2½ hour battle. During the next month the Army entrenched in Chattanooga recuperated and gained strength for the ensuing battle of Chattanooga.

November 23, 24, and 25, Dr. Little observed the battle: "We still remain on pickets and in the afternoon about 1 o'clock at the same time all the troops in Chattanooga began to fall in and it was a grand sight to see them—as soon as formed into brigades they commenced to move out our works at two openings and one would think it a solid stream of men. They moved to the left of the city and soon engaged the enemy where a sharp skirmish occurred resulting in our taking the first line of rifle pits and about 200 men. Our forces remained all night in full sight of the enemy and there was no change in position. About 10:00 firing could be heard on the west side of Lookout Mountain and it soon became apparent that Hooker was engaging the enemy. He forced them back under the fire of our artillery and about noon he came around the point in fine style. The sight was grand and the fight lasted till eleven at night.

Victory From Defeat

"November 25th was a day long to be remembered by the American people. At an early hour the reports of Sherman's guns on the left reached our ears and the battle continued all day. Between 3 and 4 p.m. our long line on the west side of Missionary Ridge was ordered forward and made a splendid charge across an open field and up Missionary Ridge taking many men and several guns and deciding the battle (40 pieces of artillery were taken at Missionary Ridge)."

The victory at Chattanooga opened up the March to Atlanta by Sherman and was an important one to the Union Army, and especially to Dr. Little. Still in Chattanooga, December 16, his words reflected the feeling at that time: "While I note this our Best Brigade Band is playing a merry retreat and all is happy. My health is excellent and I weigh 155 lbs. —11 lbs. more than ever at home."

Dr. Little's diary ends December 31, 1863, and we know little of his experiences until July, 1864, when his term of service expired. At that time he went to Princeton, Illinois, and began practice.[6]

In July, 1866, he came to Manhattan, Kansas, where he practiced until he retired in 1917. In 1875 he was elected member of the Kansas House of Representatives. He was influential in supporting the establishment of Kansas State College in Manhattan. He was chairman of the Riley County Republican Central Committee and was appoinnted by President Arthur to the examining board of Civil War veterans for pensions, serving until President Wilson's administration. He was instrumental in getting the Carnegie Library established in Manhattan.

Dr. Little often rode horseback to visit his patients, carrying his medicines in a saddlebag and relying on the stars to find his way across the prairie at night. In 1915 Dr. Little and his daughter, Dr. Bessie Belle Little, a physician as was her father, founded the Charlotte Swift Memorial Hospital named for Dr. Charles Little's wife who died in 1909.[10]

Though no longer in active practice, Dr. Little served as President of the Riley County Medical Society in 1922, the same Society he helped found in 1902.[4]

Dr. Little died November 17, 1932, at Manhattan. The cause of his death was listed as chronic myocarditis. He was 96 years of age.

During the last 70 years of these, he may often have reminisced over the last entry in his diary: "December 31, 1863: With this day ends the year 1863, a period of far more importance to me than any previous year of my life."[9]

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PHYSICIANS' ACTIVITIES

Dr. Kermit E. Krantz has been appointed professor and chairman of the department of obstetrics and gynecology at the University of Kansas School of Medicine. The appointment is effective July 1, 1959. He will fill the chairmanship held for 30 years by **Dr. Leroy A. Calkins,** who is relinquishing the post to fulfill the university's age requirement for department head's responsibilities. Dr. Calkins will remain on the faculty as professor in the department. Dr. Krantz, a Markle Scholar in Medical Science since 1957, has been assistant professor of obstetrics and gynecology at the University of Arkansas since 1955. He received his M.D. from Northwestern, as well as bachelor's degrees in science and medicine; and a master's in science and anatomy at the same school.

James A. Wheeler, M.D., Axtell Clinic, was the guest speaker at the annual initiation banquet of Phi Sigma (honorary biological fraternity) on Wednesday, May 6, at Oklahoma State University, Stillwater, Oklahoma.

Doctor Wheeler's topic was "New Thoughts in Clinical Medicine."

Dr. Jack Coyle, Coffeyville, was the winner of the Kansas Medical Society's golf tournament. In the competition held during the annual state meeting in Topeka, Dr. Coyle shot a 74 while runner-up, Dr. Ed Ashley of Chanute, carded a 78.

In the trap-shooting competition, **Dr. Bill Smiley** of Junction City, shared top honors with **Dr. W. A. Smiley** also from Junction City and **Dr. Shirley Clark,** Topeka.

Dr. Robert Crawford of Hutchinson was elected president of the Society's Golf and Trap Association.

"Doc Adams" of the television show "Gunsmoke" was invited by the Society to attend its annual meeting in Topeka and receive a special citation. The citation which was inscribed:

> The Kansas Medical Society Outstanding Service Award for 1959 to Mr. Milburn Stone for his characterization of "Doc" Adams in "Gunsmoke."
>
> Because of the warmth, the integrity and the humanity of his portrayal of a pioneer Kansas physician in the television program "Gunsmoke,"
>
> And because as "Doc" Adams he performs a notable service to the medical profession in bringing to the people of this nation a better understanding of the doctor,
>
> The Kansas Medical Society on the centennial of its founding takes pride in presenting to Mr. Milburn Stone this Outstanding Service Award.
>
> Presented May 5, 1959 at Topeka, Kansas, (Signed) **T. P. Butcher, M.D.,** President.

was presented at the Society's Tuesday night banquet before more than 370 members and guests. After receiving the award in the person of Milburn Stone, his true identity, he quickly doned his western doctor's role and aided by "Miss Kitty" put on a delightful 30 minute show. After the banquet "Doc and Kitty" spent more than an hour signing autographs for the guests.

Dr. William Porter, a 1953 graduate of the University of Kansas Medical School, moved his office from Minneola to Tribune in Greeley County. He will join **Dr. Willard Werner** who has been the county's only physician.

Atwood, Kansas will have a new doctor, **Dr. Kenneth E. Bickford,** who has been practicing in Wakeeney for several months. He is a graduate of the University of Kansas Medical School and has served his internship at St. Francis Hospital in Wichita.

Dr Funston J. Eckdall was named man of the week by the Emporia *Gazette.* He has recently been elected as vice-president of the American Association of Railway Surgeons. Dr. Eckdall's father, **Dr. Frank A. Eckdall,** also from Emporia, is former vice-president of the Association. Dr. F. J. Eckdall will serve a three year term and then will succeed to the presidency. The Association represent all railroads in the United States and has a membership of between 4,000 and 5,000.

Dr. Eckdall began his medical practice career with his father following his internship. During World War II he was a captain and afterward succeeded his father as the Santa Fe doctor in Emporia.

Dr Thomas P. Butcher, Emporia, past president of the Kansas Medical Society, spoke to the annual meeting of the Kansas State Bar Association. The Association's meeting held last month was attended by more than 600 members of the Bar. His topic was "The 5th Demention" an exploration into the ultimate reality in a physical world.

Governor Docking appointed **Dr. Lloyd G. Schwartz,** Topeka physician, as the new Shawnee County coroner last month.

He will fill the unexpired term of the late **Dr. Donald H. Macree.** Dr. Schwartz was born in Topeka and is a graduate of the University of Kansas Medical School. He has been practicing in Topeka since his discharge from the medical corps following World War II. He served in the Philippines during the war.

Dr. Schwartz is 44, and has three children. He and his wife reside in Topeka.

Dr. James G. Stewart, a retired Topeka physician, was one of three Washburn University graduates to receive a Distinguished Service Award from the University alumni association this month.

The awards were given at an alumni dinner at the Student Union on the Washburn campus.

Dr. Stewart was honored for his service to Topekans during his more than 30 years of practice in the community. He studied law at Washburn before switching to medicine and was graduated in 1909. He retired in 1950, and has been active in adult education at the university since his retirement.

"Hypnosis is an ancient science rather than new," reported **Dr. E. Raymond Gelvin** to members of the Concordia Rotary Club last month. He became interested in hypnotism several years ago and related a number of occasions where the science is beneficial, especially in the field of medicine.

Dr. Marion F. Russell, Jr., who has been affiliated the past three years with the Mayo Clinic, returned to Great Bend last month to practice medicine. He will be associated with his father, **Dr. M. F. Russell, Dr. Homer B. Russell,** and **Dr. Dave Shivel.**

A graduate of K.U. Medical School he studied for two years at Northwestern University before enlisting in the Navy. He has been in advanced pediatric training at the Mayo Clinic since his internship at the Cook County Hospital, Chicago.

Dr. W. Clarke Wescoe, dean of the University of Kansas School of Medicine, was granted a six months leave-of-absence to serve as guest instructor in pharmacology at the medical school of the University of the Philippines in Manila. He left Kansas City for this assignment last month and will return in October.

ANNOUNCEMENTS

The National Library of Medicine has just issued *Fungus Infections,* a bibliography on systemic and superficial fungus infections. This is another in its series of selective bibliographies on subjects of current interest. Others in the series are on space medicine, cancer chemotherapy, and staphylococcal infections. A complete list of such bibliographies is available. Single copies of the bibliographies can be obtained at no cost upon request to the Acquisition Division, National Library of Medicine, 7th Street & Independence Ave., S.W., Washington 25, D. C.

Applications for certification (American Board of Obstetrics and Gynecology), new and reopened, Part I, and requests for re-examination Part II are now being accepted. All candidates are urged to make such application at the earliest possible date. Deadline date for receipt of applications is August 1, 1959. No applications can be accepted after that date.

Candidates are requested to write to the office of the Secretary for a current Bulletin if they have not done so in order that they might be well informed as to the present requirements. Application fee ($35.00), photographs, and lists of hospital admissions must accompany all applications.

The Third International Congress of Physical Medicine will be held in Washington, D. C., U. S. A., from August 21 through August 26, 1960. This Congress will assemble physicians and other profes-

sional personnel from all parts of the world concerned with the furtherance and scientific development of physical medicine and rehabilitation. This is the first International Congress of such character and magnitude to meet in the United States. International Congresses have been held in London in 1952, and in Copenhagen in 1956. It is the objective of the Congress to further the development of knowledge and professional and technical skills through the exchange of information concerning the advances made in the field of physical medicine and rehabilitation.

The University of Southern California School of Medicine will offer another Postgraduate Refresher Course in Hawaii and on board the *S.S.Lurline* from July 29 through August 15, 1959. In addition to the lectures, there will be workshops in ECG and X-ray interpretation as well as problems of water and electrolyte balance and the differential diagnosis of jaundice.

Further information about the Course may be obtained by writing to the Director of the Postgraduate Division, USC School of Medicine, 2025 Zonal Avenue, Los Angeles 33, California.

The Department of Otolaryngology, University of Illinois College of Medicine, announces two special postgraduate courses to be offered in the fall of 1959: ANNUAL OTOLARYNGOLOGIC ASSEMBLY—The Assembly will be conducted September 18 through September 26, 1959, and will consist of a series of lectures and panels concerning advancements in otolaryngology. Some of the sessions will be devoted to surgical anatomy of the head and neck and histopathology of the ear, nose and throat. Guest lecturers will participate in an entire day's program reviewing the latest advances and principles of temporal bone surgery.

COURSE IN LARYNGOLOGY AND BRONCHOESOPHAGOLOGY—The course in laryngology and bronchoesophagology, is scheduled November 9 through November 21, 1959. Interested physicians should write direct to the Department of Otolaryngology, 1853 West Polk Street, Chicago 12, Illinois.

The American Cancer Society will conduct a two day symposium on "The Evaluation of Early Diagnosis of Cancer." It will be presented at the Society's Annual Scientific Session held in New York, October 26-27, at the Biltmore Hotel.

The program is fully approved and recommended by the American Academy of General Practice for 12 hours of Category II Credit for its members.

NEWS NOTES

Television Series Annual Meeting Feature

A series of four half-hour television programs summarizing top scientific events was a feature of the American Medical Association's 108th annual meeting in Atlantic City this month.

Originating each day at 5:30 p.m. June 8-11, from a special studio in Convention Hall, the American Medical Association's "Bulletin of the Air" was seen in the Philadelphia-Atlantic City area over a local TV station.

On each telecast, meeting participants who made scientific "news" during the day will present capsule reports to the television audience. The programs—featuring Philadelphia newscaster Taylor Grant—were designed to keep physicians informed of newsworthy events and at the same time show the general public what goes on at an A.M.A. meeting.

Film recordings made of the "live" telecasts will be edited into motion picture "Highlights of the 108th Annual Session" for fall distribution to medical meetings throughout the country.

'Medicine—a Lifelong Study' Theme of Chicago Conference

Patterns of success and patterns of failure in the great cooperative movement to improve the health care of people everywhere will be exchanged and compared when medical educators from 50 different countries gather in Chicago for the Second World Conference on Medical Education, August 29 to September 4.

This seven-day meeting, jointly sponsored by the great world bodies of medicine, will provide a common ground for the free exchange of scientific information and experiences between countries. In this way, a treasure-house of ideas and a compendium of knowledge in the broad field of medical education will flow from the more advanced countries to those now moving into the full light of medical progress.

The conference is being held under the auspices of the World Medical Association, which was founded 12 years ago, one of its 7 objectives being "to assist all peoples of the world to attain the highest possible level of health." The association is now composed of 55 national medical associations representing about 700,000 physicians.

President Eisenhower, who has been keenly interested in the financial problems of medical schools ever since his days at Columbia University where he helped organize the National Fund for Medical Education, is patron of the conference. He has been invited to address the opening plenary session on Monday, August 31.

Committees for 1959-1960

Allied Groups

W. M. Cole, Wellington, Chairman; J. J. Basham, Fort Scott; M. L. Belot, Jr., Lawrence; H. O. Bullock, Independence; A. R. Chambers, Iola; F. J. Eckdall, Emporia; F. B. Emery, Concordia; J. H. Gilbert, Seneca; D. A. Huebert, Wichita; J. B. Pretz, Kansas City; D. J. Smith, Overland Park; N. C. Smith, Arkansas City; M. O. Steffen, Great Bend.

Anesthesiology

Wray Enders, Kansas City, Chairman; L. L. Bressette, Kansas City; H. J. Brown, Winfield; R. S. McKee, Leavenworth; R. T. Parmley, Wichita; W. F. Powers, Wichita; L. J. Ruzicka, Concordia; H. F. Spencer, Emporia; J. R. Sumner, Hutchinson; F. C. Taggart, Topeka; E. T. Wulff, Atchison.

Auxiliary

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J. E. Hill, Arkansas City, Chairman; B. J. Ashley, Topeka; E. J. Bribach, Atchison; L. L. Calkins, Kansas City; C. A. Crockett, Kansas City; F. T. Cultron, Salina; D. O. Howard, Wichita; M. S. Lake, Salina; D. T. Loy, Great Bend; H. E. Morgan, Newton; W. M. Scales, Hutchinson; D. P. Trimble, Emporia; D. D. Vermillion, Goodland.

Conservation of Hearing and Speech

V. R. Moorman, Hutchinson, Chairman; C. W. Armstrong, Salina; J. A. Budetti, Wichita; E. L. Gann, Emporia; C. L. Gray, Wichita; W. P. McKnight, Wichita; E. E. Miller, Pittsburg; R. G. Montgomery-Short, Halstead; W. D. Pitman, Pratt; R. R. Preston, Topeka; G. O. Proud, Kansas City; R. E. Riederer, Olathe; M. J. Ryan, Kansas City.

Constitution and Rules

A. W. Fegtly, Wichita, Chairman; T. C. Ensey, Marion; A. C. Harms, Jr., Kansas City; Y. E. Parkhurst, Belle Plaine; A. S. Reece, Gardner; G. L. Thorpe, Wichita; C. E. Vestle, Humboldt.

Control of Cancer

L. W. Reynolds, Hays, Chairman; D. L. Berger, Mission; J. P. Berger, Wichita; G. L. Campbell, Arkansas City; W. G. Cauble, Wichita; A. M. Cherner, Hays; J. C. Dysart, Sterling; A. A. Fink, Topeka; W. A. Grosjean, Winfield; H. L. Hiebert, Topeka; J. D. Hilliard, Medicine Lodge; W. J. Kiser, Wichita; J. R. Kline, Wichita; M. V. Laing, Kansas City; C. H. Miller, Parsons; N. C. Nash, Wichita; C. R. Openshaw, Hutchinson; D. C. Reed, Wichita; R. H. Riedel, Topeka; D. S. Ruhe, Kansas City; R. P. Schellinger, Emporia; P. H. Schraer, Concordia; B. E. Stofer, Wichita; G. M. Tice, Kansas City; L. E. Vinzant, Wichita; H. M. Wiley, Garden City; R. W. Wright, Jr., Kansas City.

Control of Tuberculosis

J. L. Morgan, Emporia, Chairman; A. L. Ashmore, Wichita; A. Baude, Topeka; R. M. Brooker, Topeka; J. A. Butin, Chanute; R. I. Canuteson, Lawrence; P. R. Carpenter, Kansas City; A. M. Cherner, Hays; L. H. Coale, Kansas City; R. F. Conard, Emporia; M. J. Fitz-Patrick, Kansas City; J. K. Fulton, Wichita; R. A. Lawson, Chanute; R. R. Melton, Marion; J. M. Mott, Topeka; G. W. Nice, Topeka; R. M. Owensby, Mankato; C. Pokorny, Halstead; J. W. Spearing, Columbus; C. F. Taylor, Norton; F. A. Trump, Ottawa; P. H. Wedin, Wichita.

Emergency Medical Care

F. C. Beelman, Topeka, Chairman; G. L. Ashley, Chanute; K. F. Bascom, Manhattan; R. W. Blackburn, Council Grove; F. L. Brochu, Kansas City; G. L. Gill, Sterling; L. F. Glaser, Hutchinson; A. J. Horejsi, Ellsworth; C. C. Hunnicutt, Sabetha; H. H. Hyndman, Wichita; N. M. Jenkins, Salina; D. S. Klassen, Newton; G. E. Manahan, Lawrence; O. F. Prochazka, Liberal; R. E. Speirs, Dodge City; J. F. Thurlow, Hays; D. P. Trees, Wichita.

Endowment

C. V. Black, Pratt, Chairman; R. A. Nelson, Wichita; R. J. Ohman, Dodge City; J. L. Perkins, Hutchinson; J. W. Randell, Marysville; R. Schrepfer, Kansas City; F. L. Smith, Jr., Colby; C. C. Underwood, Emporia.

Fee Schedule

W. J. Reals, Wichita, Chairman, Pathology; W. R. Allen, Kansas City, Radiology; H. J. Brown, Winfield,

Anesthesiology; J. G. Claypool, Howard, Internal Medicine; G. W. Fields, Scott City, General Practice; W. H. Fritzemeier, Wichita, Dermatology; L. W. Hatton, Salina, Psychiatry; J. E. Hill, Arkansas City, Ophthalmology; T. C. Hurst, Wichita, Pediatrics; G. B. Joyce, Topeka, Orthopedics; J. G. Kendrick, Wichita, Obstetrics and Gynecology; W. R. Lentz, Seneca, General Practice; W. P. McKnight, Wichita, ENT; P. W. Morgan, Emporia, Internal Medicine; C. R. Openshaw, Hutchinson, Thoracic Surgery; J. E. Roderick, Salina, Urology; S. L. Vander Velde, Emporia, Surgery.

General Practice Award

F. E. Dillenbeck, El Dorado, Chairman; C. W. Bowen, Topeka; J. A. Howell, Wellington; L. E. Leigh, Overland Park; B. P. Meeker, Wichita; G. P. Neighbor, Kansas City; C. A. Newman, Topeka; N. H. Overholser, El Dorado; A. K. Ratzlaff, Goessel; S. Zweifel, Kingman.

Gerontology

E. G. Dimond, Kansas City, Chairman; J. O. Austin, Garden City; L. J. Beyer, Lyons; J. M. Catlett, Emporia; T. Dechairo, Westmoreland; D. M. Diefendorf, Waterville; G. M. Edmonds, Horton; H. A. Flanders, Hays; V. L. Jackson, Altamont; Ronald McCoy, Coldwater; J. J. Marchbanks, Oakley; R. F. Morton, Arkansas City; T. V. Oltman, Riley; J. W. Parker, Burlington; D. V. Preheim, Newton; E. S. Rich, Hutchinson; D. L. Rose, Kansas City; H. L. Songer, Lincoln; C. E. Stevenson, Neodesha; G. A. Surface, Ellis.

History

J. G. Hughbanks, Independence, Chairman; J. F. Barr, Ottawa; H. C. Clark, Wichita; A. W. Corbett, Emporia; O. W. Davidson, Kansas City; R. D. Grayson, Overland Park; I. A. Koeneke, Halstead; R. H. Major, Kansas City; H. P. Palmer, Scott City; R. A. Schwegler, Lawrence; G. S. Voorhees, Leavenworth.

Hospitals

E. R. Gelvin, Concordia, Chairman; G. B. Athy, Columbus; H. G. Bayles, Fredonia; W. M. Campion, Liberal; M. D. Christensen, Kiowa; J. D. Colt, Manhattan; F. R. Frink, Lawrence; E. T. Gertson, Atwood; J. L. Grove, Newton; G. F. Gsell, Wichita; R. H. Hill, Meade; D. B. Parker, Ness City; A. J. Rettenmaier, Kansas City; H. B. Russell, Great Bend; C. D. Snyder, Winfield; E. B. Struxness, Hutchinson; R. E. White, Garnett.

Industrial Medicine

E. C. Sifers, Kansas City, Chairman; V. D. Alquist, Baxter Springs; W. L. Anderson, Atchison; J. A. Budetti, Wichita; A. S. J. Clarke, Prairie Village; C. L. Francisco, Kansas City; W. L. Good, Mission; G. S. Hopkins, Topeka; J. J. Hovorka, Emporia; C. A. Isaac, Newton; J. F. Lance, Jr., Wichita; F. L. Loveland, Topeka; J. C. Mitchell, Salina; R. H. Moore, Lansing; F. A. Moorhead, Neodesha; A. R. Mueller, Leavenworth; P. C. Nohe, Kansas City; W. F. Powers, Wichita; H. L. Regier, Kansas City; R. W. Urie, Parsons; C. L. White, Great Bend.

Legislation

F. E. Wrightman, Sabetha, Chairman; (Executive Committee plus A.M.A. Delegates).

Maternal Welfare

H. M. Floersch, Kansas City, Chairman; A. H. Baum, Dodge City; R. M. Carr, Junction City; E. X. Crowley, Wichita; H. M. Foster, Hays; E. S. Gendel, Topeka; D. E. Gray, Topeka; R. G. Heasty, Manhattan; R. L. Hermes, Lawrence; J. G. Kendrick, Wichita; J. G. Lee, Jr., Kansas City; O. L. Martin, Salina; M. D. Morris, Topeka; W. R. Roy, Topeka; C. E. Shrader, Newton; R. Sohlberg, Jr., McPherson; J. C. Schroll, Hutchinson; E. F. Steichen, Lenora; D. L. Traylor, Emporia; H. L. Wilcox, Lawrence; L. E. Woodard, Wichita.

Medical Assistants

R. E. Bula, Lyons, Chairman; W. M. Campion, Liberal; W. Cox, Wichita; M. C. Eddy, Hays; K. J. Gleason, Independence; T. D. Ewing, Larned; F. L. Smith, Jr., Colby.

Medical Economics

J. A. McClure, Topeka, Chairman; P. D. Adams, Osage City; J. N. Blank, Hutchinson; H. L. Bogan, Baxter Springs; K. L. Graham, Leavenworth; J. K. Griffith, Valley Falls; G. E. Kassebaum, El Dorado; M. B. Miller, Topeka; B. A. Nelson, Manhattan; L. S. Nelson, Jr., Salina; E. B. Scagnelli, Dodge City; F. G. Schenck, Burlingame; R. C. Stanley, Paola; C. H. Steele, Kansas City; G. C. Steinberger, Abilene; W. K. Walker, Sedan.

Medical Schools

P. W. Morgan, Emporia, Chairman; R. G. Ball, Manhattan; O. W. Davidson, Kansas City; M. C. Eddy, Hays; R. W. Fernie, Hutchinson; D. B. Foster, Topeka; L. F. Glaser, Hutchinson; L. G. Glenn, Protection; A. E. Hiebert, Wichita; H. P. Jones, Lawrence; L. C. Joslin, Harper; D. Lukens, Hutchinson; L. F. McKee, Cottonwood Falls; D. Marchbanks, Hill City; J. C. Mitchell, Salina; J. G. Phipps, Wichita; M. Snyder, Salina; Leland Speer, Kansas City; N. V. Treger, Topeka; W. H. Walker, Eskridge; I. J. Waxse, Oswego.

Medicare

Kansas City Area:

J. W. Manley, Kansas City, Chairman; D. L. Berger, Mission; K. L. Graham, Leavenworth; J. G. Lee, Jr., Kansas City; G. J. Pierron, Olathe.

Manhattan Area:

C. J. Wilen, Manhattan, Chairman; J. D. Colt, Jr., Manhattan; P. H. Hostetter, Manhattan.

Salina Area:

L. S. Nelson, Sr., Salina, Chairman; D. A. Anderson, Salina; R. L. Dreher, Salina; N. M. Jenkins, Salina.

Topeka Area:

G. B. Joyce, Topeka, Chairman; L. R. Pyle, Topeka; L. L. Saylor, Topeka.

Wichita Area:

C. W. Miller, Wichita, Chairman; H. S. Bowman, Wichita; J. G. Kendrick, Wichita; B. P. Meeker, Wichita.

Membership Orientation

K. L. Graham, Leavenworth, Chairman; J. O. Baeke, Overland Park; E. S. Brinton, Wichita; G. W. Cramer, Parsons; J. H. McNickle, Ashland; R. H. O'Donnell, Ellsworth; R. H. O'Neil, Topeka.

Mental Health

F. C. Newsom, Wichita, Chairman; A. J. Adams, Wichita; H. V. Bair, Parsons; A. P. Bay, Topeka; E. P. Carreau, Wichita; I. C. Case, Topeka; O. R. Cram, Jr., Larned; H. E. Dittemore, Liberal; J. A. Dunagin, Topeka; T. L. Foster, Halstead; D. Greaves, Kansas City; J. A. Grimshaw, Topeka; L. W. Hatton, Salina; J. C. Hirschberg, Topeka; G. W. Jackson, Topeka; P. C. Laybourne, Jr., Kansas City; H. Lazar, Wichita; J. S. Menaker, Wichita; T. F. Morrow, Wichita; D. M. Rosenbaum, Newton; W. F. Roth, Jr., Kansas City; W. C. Schwartz, Manhattan; R. E. Switzer, Topeka; P. W. Thompson, Topeka; D. R. Wall, Wichita; W. A. Warren, Wichita; M. E. Wright, Lawrence.

Necrology

O. R. Clark, Topeka, Chairman; D. E. Gray, Topeka; R. Greer, Topeka; D. Lawson, Topeka; J. A. Segerson, Topeka.

Nominations

M. C. Eddy, Hays, Chairman; C. W. Miller, Wichita; B. A. Nelson, Manhattan; J. H. Peck, St. Francis; H. N. Tihen; Wichita.

Pathology

C. J. Weber, Salina, Chairman; R. J. Eilers, Kansas City; A. A. Fink, Topeka; C. A. Hellwig, Halstead; I. Joffe, Kansas City; W. E. Luedtke, Emporia; W. J. Reals, Wichita.

Perinatal Welfare

W. H. Crouch, Topeka, Chairman; V. E. Bolton, Kansas City; H. P. Jubelt, Manhattan; R. C. Knappenberger, Wichita; O. L. Martin, Salina; R. E. Pfuetze, Topeka; R. N. Shears, Hutchinson; T. E. Young, Topeka.

Postgraduate Study

W. H. Algie, Kansas City, Chairman; G. E. Burket, Jr., Kingman; M. H. Delp, Kansas City; D. B. Foster, Topeka; S. R. Friesen, Kansas City; D. Lawson, Topeka; E. L. Mills, Wichita; E. J. Ryan, Emporia.

Public Policy

T. P. Butcher, Emporia, Chairman; C. M. Barnes, Seneca; C. H. Benage, Pittsburg; W. F. Bernstorf, Winfield; W. P. Callahan, Wichita; O. W. Davidson, Kansas City; M. C. Eddy, Hays; E. S. Edgerton, Wichita; C. S. Huffman, Columbus; J. L. Lattimore, Topeka; F. L. Loveland, Topeka; N. E. Melencamp, Dodge City; C. W. Miller, Wichita; B. A. Nelson, Manhattan; L. S. Nelson, Sr., Salina; C. C. Nesselrode, Kansas City; J. H. A. Peck, St. Francis; L. R. Pyle, Topeka; H. N. Tihen, Wichita.

Public Relations

T. P. Butcher, Emporia, Chairman; S. A. Anderson, Clay Center; C. H. Benage, Pittsburg; E. W. Crow, Wichita; A. H. Dyck, McPherson; J. L. Lattimore, Topeka; J. W. Manley, Kansas City; G. Marshall, Colby; C. W. Miller, Wichita; L. W. Patzkowski, Kiowa; V. E. Wilson, Kansas City.

Relations With Bar Association

K. E. Voldeng, Wellington, Chairman; L. G. Allen, Jr., Kansas City; T. R. Hamilton, Kansas City; J. B. Jarrott, Hutchinson; C. R. Rombold, Wichita; E. J. Ryan, Emporia; J. A. Segerson, Topeka; R. E. Stowell, Kansas City.

Rural Health

J. G. Claypool, Howard, Chairman; P. D. Adams, Osage City; V. E. Brown, Sabetha; F. G. Freeman, Pratt; M. F. Frederick, Hugoton; R. E. Grene, LaCrosse; H. W. Hiesterman, Quinter; P. H. Hostetter, Manhattan; R. L. Krause, Goessel; E. E. Long, Humboldt; R. P. McCarthy, Kansas City; L. W. Patzkowsky, Kiowa; D. R. Pierce, Topeka; J. G. Rowlett, Paola; J. Scanlon, Horton; M. E. Schulz, Russell; E. F. Steichen, Lenora; C. R. Svoboda, Chapman; M. H. Waldorf, Jr., Greensburg; H. O. Williams, Cheney; D. H. Wood, Pittsburg; E. D. Yoder, Denton.

Safety

R. R. Snook, McLouth, Chairman; T. G. Duckett, Hiawatha; A. C. Eitzen, Hillsboro; J. A. Grove, Newton; A. E. Hiebert, Wichita; C. T. McCoy, Hutchinson; J. H. A. Peck, St. Francis; H. E. Snyder, Winfield; H. B. Sullivan, Jr., Shawnee; R. P. Weltmer, Beloit; R. C. Ye, Kansas City.

School Health

C. M. Barnes, Seneca, Chairman; M. D. Athon; Overland Park; W. F. Bernstorf, Winfield; V. Branson, Lawrence; J. A. Butin, Chanute; W. H. Crouch, Topeka; E. D. Greenwood, Topeka; R. Greer, Topeka; R. A. Nelson, Wichita; P. C. Laybourne, Kansas City; H. Lutz, Augusta; W. C. Menninger, Topeka; R. A. Moon, Prairie Village; F. D. Murphy, Lawrence; W. E. Myers, Iola; R. R. Snook, McLouth; H. R. Wagenblast, Salina.

State Meeting Format

F. E. Wrightman, Sabetha, Chairman; A. W. Beahm, Great Bend; W. J. Justus, Pleasanton; L. H. Leger, Kansas City; M. E. Nunemaker, Hutchinson; R. K. Purves, Wichita; R. C. Tozer, Topeka.

Stormont Medical Library

B. M. Powell, II, Topeka, Chairman; J. A. Dunagin, Topeka; W. E. Hird, Wichita; N. M. Jenkins, Salina; G. A. Lessenden, Lawrence; D. S. Lowe, Hiawatha; M. C. Pearson, Concordia; M. F. Stock, Pittsburg; R. G. Weiner, Halstead; R. P. Woods, Topeka.

STUDY OF HEART DISEASE

L. H. Leger, Kansas City, Chairman; D. R. Bedford, Topeka; J. W. Butin, Wichita; E. W. Crow, Wichita; E. G. Dimond, Kansas City; C. W. Erickson, Pittsburg; P. W. Morgan, Emporia; R. F. Morton, Arkansas City; G. L. Norris, Winfield; L. E. Peckenschneider, Halstead; L. F. Schmaus, Iola; H. B. Stryker, Jr., Concordia; D. C. Wakeman, Topeka; C. J. W. Wilen, Manhattan.

BLUE SHIELD

House of Delegates Resolutions Affecting Kansas Blue Shield

Six resolutions passed by the House of Delegates of the Kansas Medical Society at the 1959 convention in May directly affect Kansas Blue Shield. We are summarizing these resolutions briefly in the following paragraphs:

I. *Blue Shield statement of purpose as adopted by the House of Delegates is as follows:* "The purpose of Kansas Blue Shield is to help preserve the voluntary system of medical care as a segment of the traditional free enterprise system. . . . It was initiated and is sponsored by the Kansas Medical Society to make certain that voluntary health protection be made available to all people of Kansas at reasonable and fair cost and further to conduct research in medical economics."

II. *Blue Shield was authorized by the House of Delegates* to market a service contract with income limits of $4,000 single and $6,000 family with payments to physicians based on the Kansas Relative Value Schedule of $5.00 per unit. This program has been designated as PLAN C and benefits of this Plan would be essentially the same as the present benefits in Plan B.

III. *Approval was given for the continuation of the study of hospital usage* through the Blue Shield Relations Committees. The recommendation asked that local hospital utilization study committees be formed in each medical staff. The process of forming these committees would be carried out through the District Blue Shield Relations Committees.

IV. *Another House of Delegates resolution permits county or regional medical societies to develop special Blue Shield contracts in their area.* This resolution permits a local approach similar to the Lyon County Program. Because of the wide variations in medical practice and private fee systems it is felt that there may be a possibility of working out better plans which will be more carefully attuned to the local needs.

V. *Exploration was recommended with the Kansas Hospital Association by a joint committee in connection with a contract for the aged.* The House of Delegates has approved the idea of a Joint Committee representing Blue Shield and the Medical Society exploring with the Kansas Hospital Association the possibility of developing a special program for people 65 years of age and over.

VI. *Approval was given for adjudication committees* which would involve the use of District Blue Shield Relations Committees as Adjudication Committees for "unusual charges" under an extended benefits case. This type of study had already been approved by the State Blue Shield Relations Committee.

Dr. Ryan Re-Elected

Dr. Edward J. Ryan, Emporia, was re-elected president of Kansas Blue Shield at the annual meeting of the Board of Directors, Sunday, May 3. Dr. Ryan was first elected president of Kansas Blue Shield last year, and has been a member of the Blue Shield Board since May, 1954.

All other officers of the Blue Shield Board were also re-elected. They include Dr. James B. Fisher, Wichita, first vice-president; Dr. E. Burke Scagnelli, Dodge City, second vice-president, and Dr. Lucien R. Pyle, Topeka, secretary-treasurer.

Other physicians elected from the Medical Society Councilor Districts to serve on the Blue Shield Board are: Dr. Thomas G. Duckett, Hiawatha; Dr. David G. Laury, Ottawa; Dr. R. K. Wallace, Manhattan; Dr. C. M. Lessenden, Jr., Topeka; Dr. L. S. Nelson, Jr., Salina; Dr. Norman Hull, Hays, and Dr. Anol Beahm, Great Bend.

Two prominent Kansas businessmen were also elected to serve on the Blue Shield Board to represent the membership. They are George E. Harris, president of the George E. Harris Company in Wichita, and co-author of the book *Sales and Engineering Representation;* and W. Laird Dean, Topeka, chairman of the Board of Merchants National Bank.

Six representatives of the membership serve on the Blue Shield Board, four elected by the State Members' Committee on alternate years, and two are appointed by the Governor of Kansas.

The president and president-elect of the Kansas Medical Society are ex-officio members of the Blue Shield Board.

Fair Weather Drivers

Drivers usually leave their cars at home and take public transportation in bad weather. This was shown in a Chicago study which made a series of traffic counts under varying weather conditions last winter. On clear week days there were about 1,000 more motor vehicles on one expressway than on snowy days. On rainy or snowy Saturdays the decline was about the same. On Sundays in bad weather there were about two thousand fewer motorists.

COUNTY SOCIETIES

Barton County children under the age of 14 received free polio shots under the sponsorship of the Barton County Medical Society last month.

A free diagnostic clinic for crippled children in southwest Kansas was held in Garden City last month. The Finney County Medical Society was co-sponsor of this clinic.

Two Olathe physicians were honored by the Johnson County Medical Society for long years of service at a meeting held last month in Merriam.

Granted honorary life memberships in the county society were Dr. D. E. Bronson, who came to Olathe in 1906 and has been serving the community the past 53 years and Dr. James A. Knoop, a physician in Kansas for 50 years who practiced in McCune and Parsons before coming to Olathe. Dr. Bronson is the dean of all physicians in the county.

The meeting, attended by 40 members, was in observance of the centennial year of the Kansas Medical Society and the 59th anniversary of the founding of the Johnson County Medical Society.

Also honored by the society were Dr. Ralph Major, professor emeritus at the University of Kansas School of Medicine; Dr. Charles C. Dennie, professor emeritus in dermatology at the K.U. school; Dr. Robert Isenberger, professor of pharmacology at the K.U. school and Dr. Cecil E. Tolle, formerly of Overland Park who now resides in Texas.

Seventy-five children were examined at a diagnostic clinic held at Belleville last month. The clinic was sponsored by the Republic County Medical Society, the Kansas Crippled Children Commission and the Kansas Crippled Children Society.

BOOK REVIEWS

Diseases of the Colon and Anorectum. Edited by Robert Turell, M.D. Published by W. B. Saunders Company. Two volumes. Volume 1, 608 pages. Volume 2, 609 pages. Price $35.00.

The editor, a prolific contributor to the modern proctology literature, has 80 collaborators to produce these books. The authors of the various chapters are outstanding men in the fields of anaesthesiology, anatomy, dermatology, general surgery etc. as well as proctologists, and make this a different work on diseases of the colon and anorectum. The chapter on anatomy is written by the investigator whose work is accepted as the latest contribution and its practical application is explained. Anaesthesia in this field is covered by an outstanding anaesthesiologist and by the authors of the various chapters where its application to a given procedure is indicated. The dermatologist's approach to pruritis ani and the proctologist's procedures for correcting associated anorectal pathologies is another example of the coverage of each problem in these books. There are chapters devoted to fluids and electrolytes, nutritional considerations, surgery in the aged, hematologic disorders, and others not similarly presented in previous books on the subject. A chapter on office management should interest most physicians regardless of their specialties. The entire subject matter is presented in a practical manner. The latest additions are included in this work. There are 634 good illustrations. These books should be well received as they fill a need in this important field of medicine.—*L.A.S.*

Current Therapy for 1959. By Howard F. Conn, Editor. Published by W. B. Saunders Company, Philadelphia. 781 pages. Price $12.00.

Any physician who has occasion to face an unfamiliar therapeutic situation, one that he faces so rarely that the details of management are not clear in his mind, has reason to be thankful when he can quickly avail himself of up-to-date and authoritative information. *Current Therapy* is designed to fill this need, and, generally speaking, it does well. In the past decade the annual revisions have made the book a familiar fixture in physicians' offices, staff rooms, and libraries so that it really needs no introduction to most physicians. Its long popularity and wide sale are adequate testimony to its usefulness.

This year the end papers are devoted to normal laboratory values. The general format remains the same with twelve consulting editors and approximately 300 contributors assuming responsibility for keeping the sixteen major sections of the book up to date. Adequate annual revisions would be impossible except in a multiple-author volume, but, as would be expected, the literary quality and scientific authoritativeness of the numerous articles is a bit uneven.

The articles are brief, providing the practitioner with a synopsis of the treatment of a multitude of conditions, but other sources will be necessary for the reader who needs a complete discussion of the details, the theory and the rationale behind various regimens. The book is well made, adequately indexed, and con-

tains several tables which will be welcomed by most physicians.—*J.D.R.*

The Plasma Proteins: Clinical Significance. By Paul G. Weil, M.D., Ph.D. Published by J. B. Lippincott Company, Philadelphia. 133 pages. Price $3.50.

Noting that this is a representative of the "Practitioner's Pocket Books" series, one might be led to believe that here at last was the book on blood proteins that he had been looking for—a small, moderately priced book giving a concise and authoritative résumé of the blood proteins. Unfortunately, such is not strictly the case. The author, as director of the Transfusion Service of the Royal Victoria Hospital and consultant in transfusion of the Queen Elizabeth and Royal Edward Laurentian Hospitals approaches the plasma proteins largely from the point of view of the internist who is interested in hematology and transfusions. This emphasis leads to very sketchy coverage of the more strictly biochemical and physiological aspects which are currently of increasing importance, not only to the research worker, but to the clinician who hopes to make proper clinical applications based on an understanding of the fundamentals.

The twenty-one chapters give a rather brief coverage of such topics as fibrinogen, globulins, liver disease, etc. The reader whose interest is aroused will wish for just a trifle more information here and there. Brevity may be the soul of wit, but it does not always lead to clear explanations; witness the author's explanation of the Coomb's test.

The book is of a "pocket" size. It is bound in hard covers, indexed and illustrated with a line drawing which presents a fair representation of the electrophoretic pattern of serum proteins, and another one which shows the relationship between the glycoproteins and the lipoproteins. There are, in addition, a few tables. The bibiliography contains a fair number of references, mostly to the clinical literature rather than to primary sources.—*J.D.R.*

Cancerophobia Claim Allowed

A new field in personal injury litigation has been thrown open as the result of a recent decision in the Court of Appeals of New York.

The court ruled that Mrs. Eleanor Ferrara was entitled to $15,000 damages for mental anguish as the result of developing severe cancerophobia.

The crux of the case was her contention that she became extremely fearful of developing cancer after suffering burns while being treated by doctors specializing in x-ray therapy.

The history of the case is as follows:

X-Ray Treatments: Mrs. Ferrara, who was suffering from bursitis in the right shoulder, received a series of x-ray treatments and subsequently developed a condition which was diagnosed as chronic radiodermatitis.

On Dec. 3, 1951, about two years after the treatments, Mrs. Ferrara was referred by her attorney to a dermatologist for examination. During the course of the examination, he advised the woman to have her shoulder checked every six months because the burns might become cancerous.

Mrs. Ferrara then sued the doctors specializing in x-ray therapy for malpractice, contending that the total number of roentgens (1400) applied was excessive.

The plaintiff introduced the testimony of a neuropsychiatrist to the effect that she was suffering from severe cancerophobia. The witness further testified that Mrs. Ferrara might have permanent symptoms of anxiety.

Decision Appealed: The jury rendered a verdict in favor of the plaintiff in the sum of $25,000 and in the sum of $1,000 to her husband for the loss of her services.

The decision was appealed to the Court of Appeals for the purpose of passing on the propriety of the award of $15,000 of the $25,000 to the plaintiff for mental anguish flowing from the cancerophobia.

During the course of the trial, the attorney for the plaintiff said:

"We are not making any claim that this person is going to sustain a cancer. We are going on a neurosis."

The court concluded:

"This case is somewhat novel . . . in that it appears to be the first case in which a recovery has been allowed against the original wrongdoer (x-ray specialists) for purely mental suffering arising from information the plaintiff received from a doctor to whom she went for treatment of the original injury. We have concluded, however, that under the circumstances of the case such recovery was justified."

Dissenting Opinion: There was a dissenting opinion by one of the judges who stated:

"The unfortunate result of the rule by this decision, albeit disclaimed, is that a doctor's mere statement as to a possibility is a stepping stone to an increased recovery should the patient simply claim to be concerned to suffer worry by reason thereof. . . .

"The decision of the majority introduces into the law a new field of damages for cultivation by plaintiffs and affording countless opportunities for fraudulent unverifiable claims." Ferrara v. Galluchio 152 N.E. 2d 249 (N. Y., 1958)—*A.M.A. News.*

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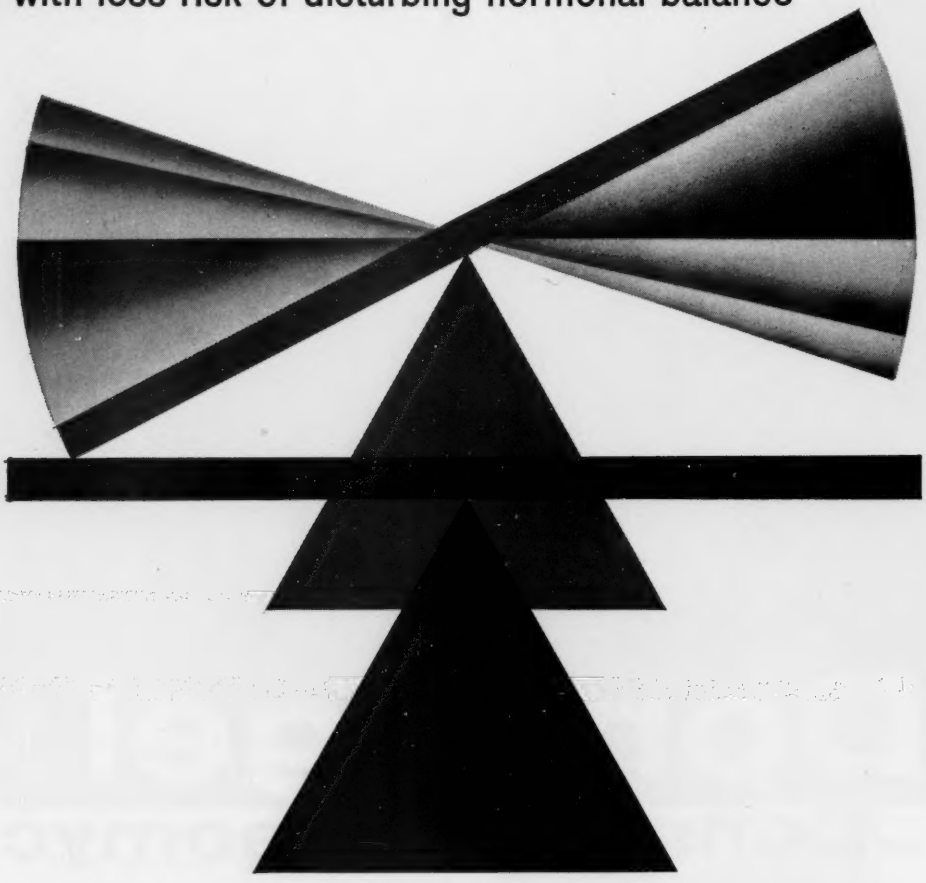

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1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

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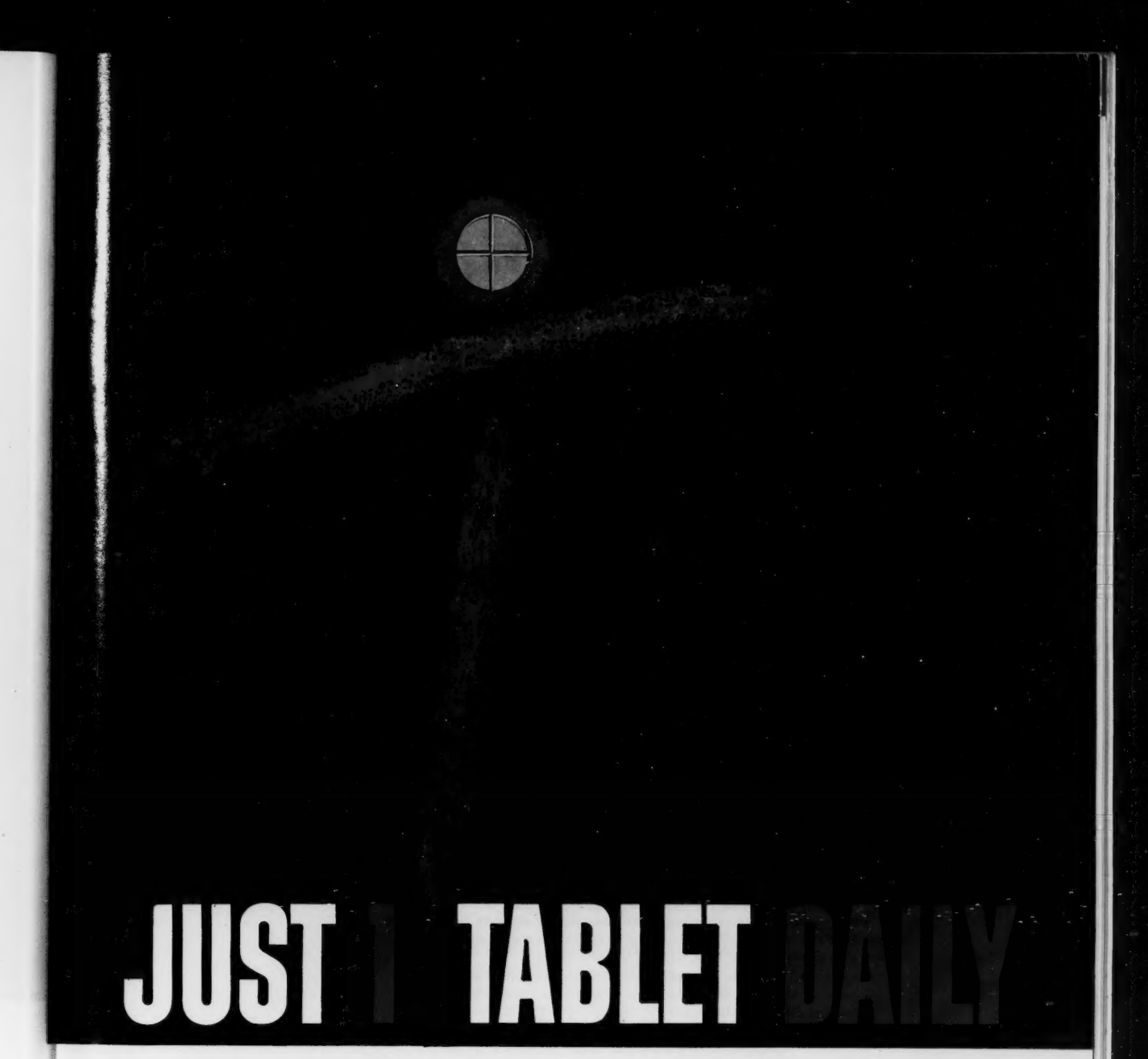

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1. Editorial: New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med. & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

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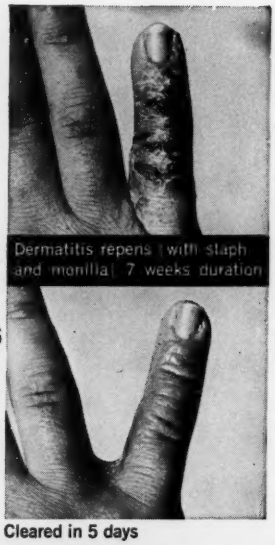
new for total management of itching,[1,2] inflamed,[3,4] infected[5,6] skin lesions



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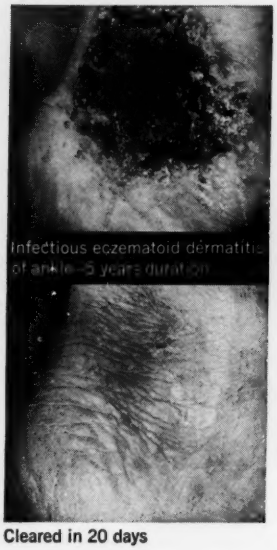

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References: 1. Shelmire, J.B., Jr.: Monographs on Therapy 3:164 (Nov.) 1958. • 2. Nix, T.E., Jr., and Derbes, V.J.: Monographs on Therapy 3:123 (Nov.) 1958. • 3. Robinson, R.C.V.: Bull. School of Med., U. Maryland 43:54 (July) 1958. • 4. Sternberg, T.H.: Newcomer, V.D., and Reisner, R.M.: Monographs on Therapy 3:115 (Nov.) 1958. • 5. Clark, R.F., and Hallett, J.J.: Monographs on Therapy, 3:153 (Nov.) 1958. • 6. Smith J.G., Jr.; Zawisza, R.J., and Blank, H.: Monographs on Therapy, 3:111 (Nov.) 1958. • 7. Monographs on Therapy, 3:137 (Nov.) 1958. • 8. Howell, C.M., Jr.: North Carolina M.J. 19:449 (Oct.) 1958. • 9. Bereston, E.S.: South. M.J. 50:547 (April) 1957.

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(1) Ernst, E. M., and Snyder, A. M.: Pennsylvania M. J. *61*:355, 1958.

(2) Preisig, R., and Landman, M. E.: Am. Pract. & Digest Treat. *9*:740, 1958.

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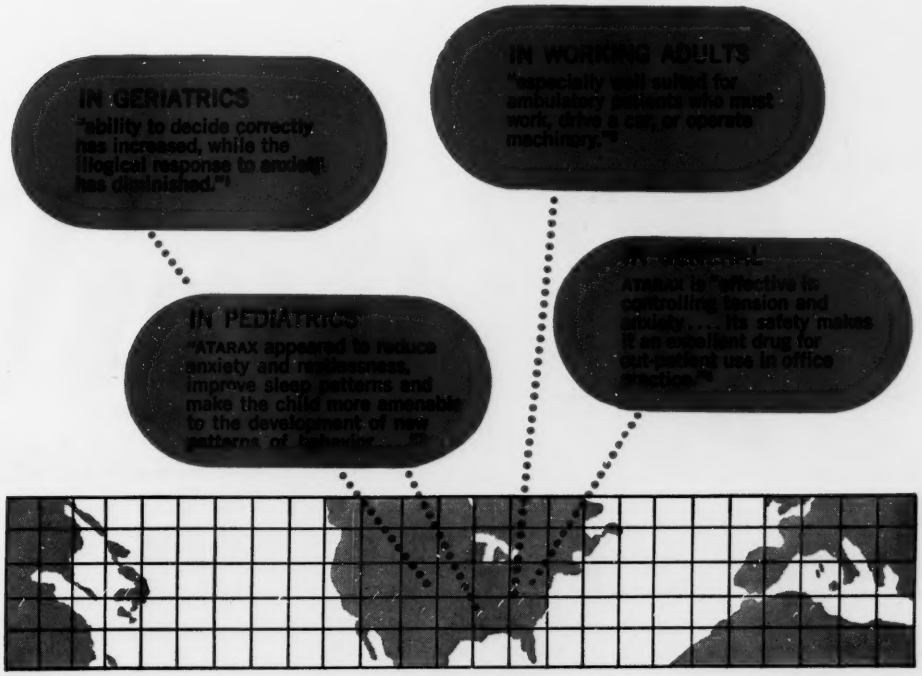
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References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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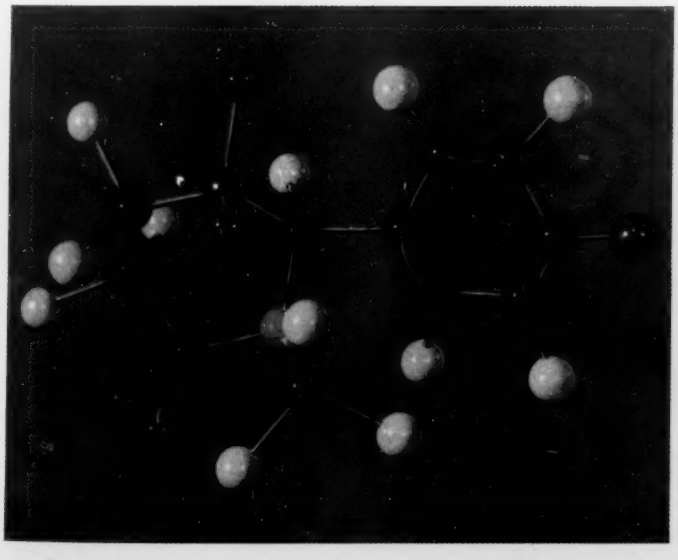
***Potent* MUSCLE RELAXANT**
***...Equally effective as a* TRANQUILIZER**

***tran-qui-lax-ant** (tran'kwi-lak'sant) [< L. tranquillus, quiet; L. laxare, to loosen, as the muscles]



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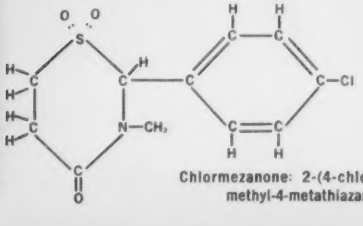
Unrelated chemically to any other drug in current use, Trancopal offers a completely new major chemical contribution to therapeutics.



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Clinical studies of over 4400 patients by 105 physicians[1] proved Trancopal remarkably effective in musculoskeletal conditions, anxiety and tension states.

MUSCULOSKELETAL DISORDERS

effective in

93%

of 1570 documented cases of

LOW BACK PAIN

(LUMBAGO, SACROILIAC DISORDERS)

By relieving muscle spasm and pain, Trancopal permits early and active exercise and physical therapy to accomplish maximal benefits for rapid recovery.

Trancopal

the first true tranquilaxant

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effective in

88%

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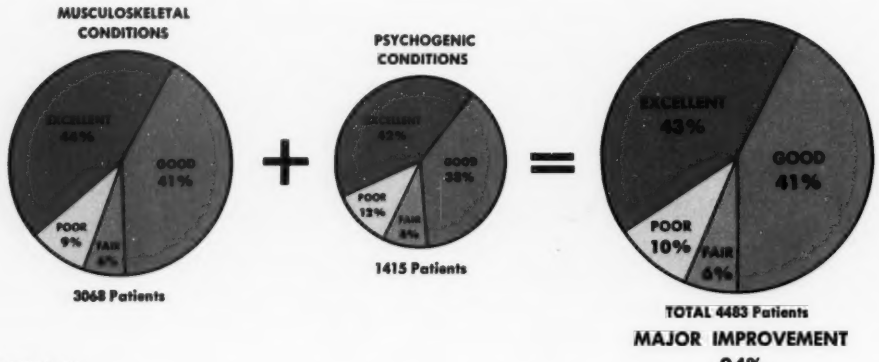
Thoroughly evaluated clinically...

Clinical studies of 4483 patients by 105 physicians[1] have demonstrated that Trancopal often is effective when other drugs have failed. From these studies it is evident that Trancopal can provide more help for a greater number of tense, spastic, and/or emotionally upset patients than can any other chemotherapeutic agent in current use.



INDICATIONS

Musculoskeletal

- Low back pain (lumbago)
- Neck pain (torticollis, etc.)
- Bursitis
- Rheumatoid arthritis
- Osteoarthritis
- Disk syndrome
- Fibrositis
- Ankle sprain, tennis elbow, etc.
- Myositis
- Postoperative muscle spasm

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- Anxiety and tension states
- Dysmenorrhea
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- Asthma
- Angina pectoris
- Alcoholism

Supplied: Trancopal Caplets® (scored) 100 mg., bottles of 100.

References: 1. Collective Study, Department of Medical Research, Winthrop Laboratories. • 2. Ganz, S.E.: J. Indiana M. A. In press. • 3. Lichtman, A.L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958.

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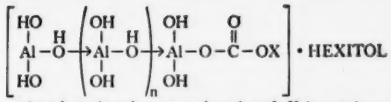

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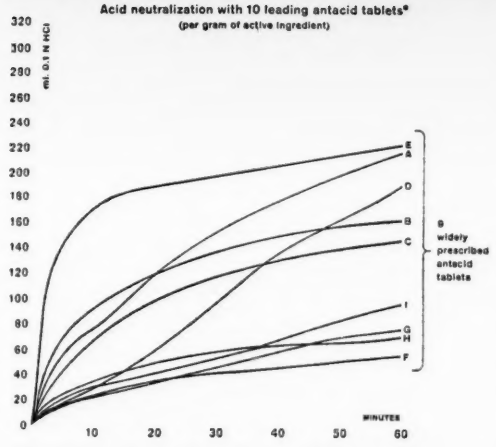

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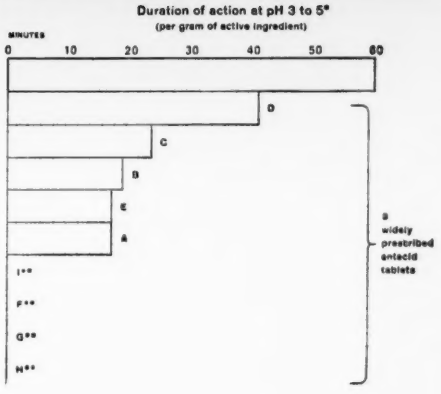

*Hinkel, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.
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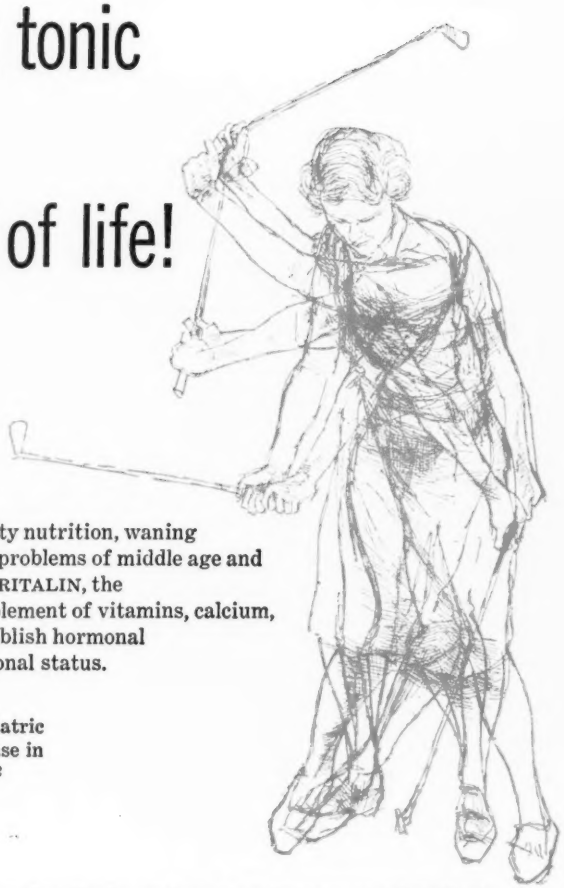

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Supplied: Ritonic CAPSULES; bottles of 100.
References: 1. Natenshon, A. L.: J. Am. Geriatrics Soc. *6*: 534 (July) 1958.
2. Bachrach, S.: To be published.
RITALIN® hydrochloride (methylphenidate hydrochloride CIBA)

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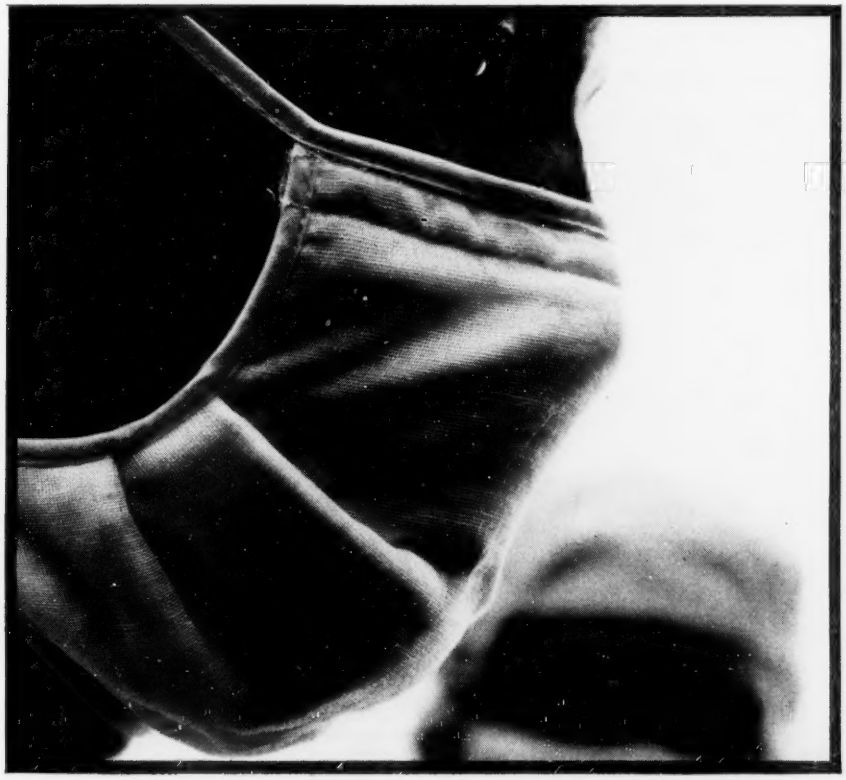

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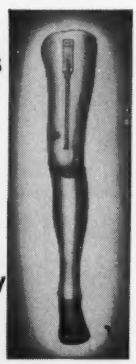

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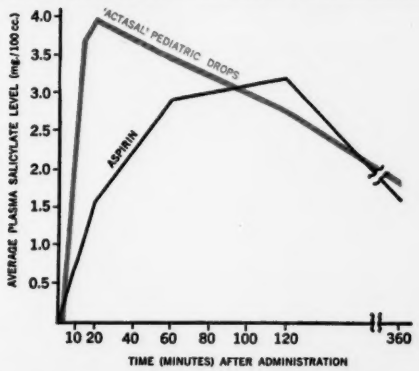

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CITED REFERENCES: 1. Smith, P. K.: Personal Communication. 2. Wolf, J., Aboody, R.: Federation Proc. 18:605, 1959. 3. Broh-Kahn, R. H.: Federation Proc. 18:17, 1959. 4. Complete data available on request to the Medical Director.

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Bialkin, G.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959.

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Bialkin, G.: A New Anti-Seborrheic Agent in Pediatric Practice. Arch. of Ped. (to be published).

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Index to Advertisers

Ames Company 22

Burroughs Wellcome and Company, Inc. 37

Ciba Pharmaceutical Products, Inc. 44
Coca-Cola Company 36

Farmers and Bankers Life Insurance Company, Center section

Geigy Pharmaceuticals 30
General Electric Company, X-ray Department 28

Hanicke, P. W., Manufacturing Company 52

Isle, W. E., Company 46

Kansas Oxygen, Inc. 34

Lattimore-Fink Laboratories 38
Lederle Laboratories .. 31, 34, 36, 38, center section; 42, 49
Lilly, Eli, and Company 26
Lorillard, P., Company 18

Medical Protective Company 38
Merck, Sharp and Dohme, Inc. 5, 16, 17, 43
Munns Medical Supply Company, Inc. 50

Neisler, Irwin, & Co. 24
Neurological Hospital 52

Parke, Davis and Company .... Inside front cover and 3
Petro's Surgical Appliances 50
Pfizer Laboratories 9, 45, 51
Physicians Casualty Association 52
Prairie View Hospital 50
Purdue Frederick Company 47

Ralph Clinic ..... Center section
Riker Laboratories ..... Inside back cover
Robins, A. H., Company, Inc. 14, 19, 29
Roerig, J. B., and Company, Inc. 23, 25

Schering Corporation 15, 25, 33
Searle, G. D., and Company 27
Smith, Kline and French Laboratories ..... Back cover
Smith-Dorsey 6, 7, 10, 11, 21
Squibb, E. R., and Sons 12, 13, 20, 32
Sutliff and Case Company, Inc. 50

Tutag, S. J., and Company 46

University of Kansas School of Medicine .. Center section
Upjohn Company 39

Wallace Laboratories ..... Facing 18
Winthrop Laboratories ..... 8, facing 36, 40, 41, 48

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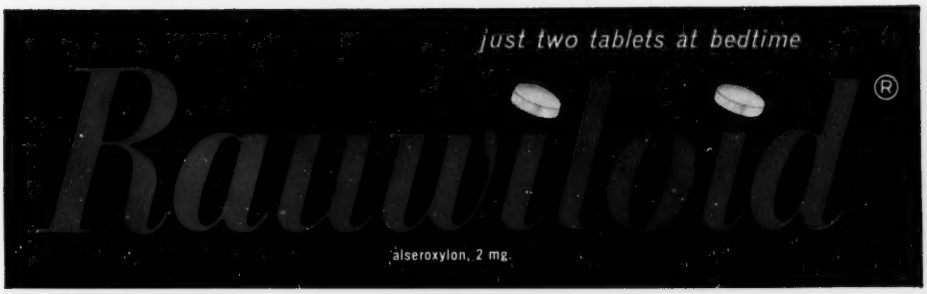

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In listless and lethargic overweight patients—**DEXEDRINE†**

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*T.M. Reg. U.S. Pat. Off. †T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

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